DOCUMENT RESUME

ED 144 437 HE 009 220

TITLE	An Exploratory Study of Women in the Health Professions Schools. Volume IX: Women in Public Health.
INSTITUTION	Urban and Rural Systems Associates, San Francisco, Calif.
SPONS AGENCY	Department of Health, Education, and Welfare, Washington, D.C. Office of the Assistant Secretary for Planning and Evaluation.
PUB DATE	76
CONTRACT	HEW-OS-74-291
NOTE	95p.; For related documents, see HE 009 211-221 ; Some parts of text may be marginally legible when reproduced
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	Administrative Personnel; Administrator Attitudes; Admission (School); Females; *Health Occupations Education; Higher Education; Interviews; Professional Associations; *Professional Education; *Public Health; *Sex Discrimination; Sex Role; Statistical Data; Student Opinion; Tables (Data); Teacher Attitudes; *Womens Education

ABSTRACT

As part of a larger study of the barriers to women in the schools and practice of eight health professions, the study on women in public health involved extensive interviews with administrators, faculty, and students in the professional schools. From this and other data gathered emerge the three components of the report: (1) an overview of the profession--its history, organization, work focus, and the role and status of women in it; (2) recommendations concerning some of the problems women face, that can best be addressed by the schools themselves or the professional associations; and (3) direct quotes from the interviews that illustrate the unique experiences of women and the extent to which these experiences serve as barriers to success in the schools. Some data tables are included. (MSE)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED144437

BEST COPY AVAILABLE

AN EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

VOLUME IX: PUBLIC HEALTH

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

AE009220

WOMEN'S ACTION PROGRAM
Department of Health, Education, and Welfare

EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

VOLUME IX: WOMEN IN PUBLIC HEALTH

Prepared for

The Women's Action Program
Office of Special Concerns,
Office of the Assistant Secretary for Planning and Evaluation,
Department of Health, Education and Welfare

pursuant to

CONTRACT: HEW OS-74-291

Prepared by

URBAN AND RURAL SYSTEMS ASSOCIATES (URSA)
Pier 1-1/2, San Francisco, California 94111
1976

The opinions and conclusions expressed in this report are URSA's and do not necessarily reflect those of the Department of Health, Education, and Welfare.

It's going to be damn difficult on a woman to break into the top ranks, say an administrator. She can rise, I would say, virtually on an even scale through the lower management, administrative assistant, to the assistant administrator. But then she peaks. (First year student, male, hospital administration)

One of our faculty members has been seriously looking into the question of coronary heart disease among women...that is one of the most frightening pieces of data in the entire coronary heart disease--male/female difference. The easy assumption is that it's something about endocrines. The data don't seem to bear that out, but you have to sit down and look at it...In other words, she really began to look into it in detail, and the easy assumptions fall apart. So now she's beginning to prepare a research proposal to look into this question. Now, this is not just an interesting idea; there are very few things we know about heart disease, but one of them is sex...It's major, it's universal, it's pervasive. Imagine! The only thing that hasn't been studied. So it's really crazy. Now I don't know if it takes a woman to study that, but I doubt if the question would have been addressed as vigorously and persistently unless a gal says, hey, wait a minute...(Faculty, male, epidemiology)

PREFACE

The Exploratory Study of Women in the Health Professions Schools was conducted by Urban and Rural Systems Associates (URSA) for the Women's Action Program (WAP) of the Department of Health, Education, and Welfare (HEW) under Contract Number HEW-OS-74-291. The study focuses on eight health professions generally known and referred to as the MODVOPPP professions: medicine, osteopathic medicine, dentistry, veterinary medicine, optometry, podiatry, pharmacy, and public health.

Study Purpose

The study's central tasks have been to identify and explore the barriers to success which women face as MODVOPPP school applicants and students and to describe the discrimination process, if any, which limits women's entry into these health professions. Its central purpose--indeed its primary product--has been the development of conceptual models of the recruitment, admissions, and education systems designed to maximize equal opportunities for women and to encourage their success as school applicants and students in the MODVOPPP professions. The models are the basis for guidance and recommendations intended to assist HEW, the MODVOPPP educational and professional associations, the MODVOPPP schools, and appropriate others to eliminate barriers women face and/or to minimize their impact.

Study Design and Methods

The study was purposefully exploratory in its design. According to the Request for Proposal (RFP) which resulted in the contract, "The exploratory approach taken for this study is based upon the realization that not enough is known about the process of discrimination to permit more systematic research, or to assess alternative forms of intervention designed to achieve equal opportunity based on sex." A common purpose of exploratory studies is to identify and raise issues important to an understanding of a topic under investigation. The power of exploratory research is to illuminate issues in settings and systems which are complex and where simple variables and variable clusters are inadequate

to explain and establish causal relationships. Thus exploratory studies do not normally test hypotheses, they generate them. Their purpose is not to quantify the frequency, magnitude, or distribution of events or phenomena, nor do they measure statistical correlations among events or between events and characteristics of people, institutions, professions, or other categories of systems variables. Rather their purpose is often to define complex systems through descriptive or predictive models which may be subjected to a variety of tests or evaluations in subsequent stages of research. This study's goal of developing success models for women as applicants to and students in the MODVOPPP health professions schools was thus the basis for selecting an exploratory study design.

URSA implemented the design by collecting and analyzing extensive data about the MODVOPPP professions and schools and other pertinent topics and issues. Information was gathered from the following sources:

- Interviews with almost 600 individual MODVOPPP school administrators, faculty members, and students in 27 MODVOPPP schools around the country. These were open-ended, purposefully unstructured interviews designed to surface the widest possible range of issues from a broad spectrum of respondents. They were supplemented by over 60 group interviews in which an estimated 440 men and women students participated.
- Interviews and correspondence with staff members of the professional association, student association, women's professional association, and/or association of schools and colleges in each of the MODVOPPP professions.
- Written documents prepared by and collected from the MODVOPPP schools and associations such as recruitment brochures, school catalogues, financial aid (loan and scholarship) programs and policies, school admissions committee procedures, descriptions and instructions for use of centralized application services, and so on.
- The professions' various current and, when available, historic journals.

- Available statistics on the professions' practitioners, schools, applicants, and students.
- Interviews, correspondence, and meetings with individuals and groups conducting special studies and research in and about the professions, about women in the professions, sex role behavior and learning, and other related topics; and surveys of available studies, research, and relevant literature in these areas.
- Interviews, correspondence, and meetings with representatives of HEW health policy and program agencies and reviews of pertinent federal legislation, regulations, guidelines, and other documents related to health education policy and programs.

All of this information was subjected to qualitative forms of analysis intended to identify conflict and consensus among various sources of information regarding barriers women face as MODVOPPP applicants and students and to identify exemplary policies and programs sponsored by MODVOPPP schools and associations which appeared to eliminate and/or minimize the impact of these barriers. These analyses were the basis for developing the recruitment, admissions, and education models called for by the contract.

Scope of Study Research: Variations Among the MODVOPPP Professions

MODVOPPP students and schools are all designated as potential recipients of federal financial aid under the Comprehensive Health Manpower Training Act of 1971 (PL 92-157) Public Health Service Act; and schools receiving assistance under the Act are subject to its Title VII affirmative action and non-discrimination requirements.

Inclusion in this Act is the common basis on which the MODVOPPP professions were included in this study. Beyond this common feature, however, and the obvious fact that the MODVOPPP professions are all health professions, preliminary study research suggested that in many significant ways the professions are more different than they are similar and that these differences might have great significance for women as applicants to and students in the schools. The

MODVOPPP professions vary greatly in size, for example, with the largest, medicine, having well over 300,000 active practitioners and the smallest, podiatry, having barely more than 7,000. This variation also appears in the number of operational training institutions with medicine having over 100 schools and podiatry only five. The professions differ in public visibility and general knowledge. Everyone knows of doctors, dentists, and veterinarians and knows generally what they do. Not everyone knows what DOs (doctors of osteopathic medicine) or podiatrists are or what they do. Some of the professions are clearly defined as and accorded the social status and other rewards of a profession while others, in the public view, may be more often thought of as a good occupation or a good business. To some extent varying public definitions of profession vs. occupation vs. business reflect different practice patterns and organization. Some of the professions--for example, optometry--are more often practiced in entrepreneurial business forms such as solo or partnership practice than others such as public health which includes opportunities for practice in schools, hospitals, health departments, and other employer institutions.

Variations in professional training are also great. A first professional degree sufficient for practice is possible in some sections in public health within a year; in medicine the minimum is normally five years and the average, depending on specialty selection, much longer. Cost of training varies. Entry requirements to the schools vary. Curriculum content and structure among professions vary.

Finally, and most obviously, the presence of women as practitioners and as students, both historically and currently, varies enormously among the eight MODVOPPP professions, and some are much more heavily sex-typed than others. In pharmacy, for example, about 9% of the active practitioners were women in 1970; however, increasing enrollments of women in schools of pharmacy resulted in women representing 24% of first year enrollments in 1970-71. By contrast, women represented only 3% of active dentists in 1970 and only 2% of first year enrollments in 1970-71.

These most obvious differences among the professions--and others not so obvious--led the URSA study team to conclude that a portion of our research effort must be devoted to an examination of each of the MODVOPPP professions singly and as a separate and distinct social system with its own particular history, forms of practice, professional and training institutions, and practitioners and students. The purpose of conducting eight "mini-studies" on the MODVOPPP professions was to identify any characteristics of each profession--its history, organization, and other important features--which might contribute to an understanding of the role and status of women in that profession and to an identification of the barriers women face as applicants to and students in the profession's schools.

Organization and Contents of the Final Report(s)

As a result of our decision to conduct these studies of each MODVOPPP profession, the study's findings, conclusions, and recommendations are reported in a ten-volume final report. The ten volumes are:

VOLUME I:	Part 1:	DATA ANALYSIS, FINDINGS, CONCLUSIONS, RECOMMENDATIONS
	Part 2:	APPENDICES
VOLUME II:	MEDICINE	
VOLUME III:	OSTEOPATHIC MEDICINE	
VOLUME IV:	DENTISTRY	
VOLUME V:	VETERINARY MEDICINE	
VOLUME VI:	OPTOMETRY	
VOLUME VII:	PODIATRY	
VOLUME VIII:	PHARMACY	
VOLUME IX:	PUBLIC HEALTH	
VOLUME X:	ANNOTATED BIBLIOGRAPHY	

VOLUME I includes a discussion of the study's major findings regarding barriers women face as applicants to and students in the MODVOPPP professions. It presents the recruitment, admissions, and education models which are designed to eliminate those barriers. It suggests a series of further research and action

recommendations for attention by HEW, the MODVOPPP professional and educational associations, and the MODVOPPP schools. VOLUME I also presents a detailed description of the study's methods.

The several Appendices to VOLUME I include samples of the study's data collection and analysis instruments; a summary of the major issues raised by men and women students in group interviews; financial aid sources, policies, and problems students experience; a survey of the roles and status of women in the MODVOPPP professional associations; statistical tables used by the URSA study team in conjunction with field interview and document review data; and a discussion of data gaps confronting the researcher in the MODVOPPP health professions with recommendations regarding data needs. In this regard, it is important to note and to stress that both the relative absence of minorities in the MODVOPPP schools and professions coupled with the absence of statistical data about applicants, students, and practitioners available by both race and sex simultaneously has necessarily limited the findings and conclusions in this study to Caucasian women. To prevent such research limitations in the future, one of our most urgent data recommendations is that statistical data always be made available and presented by both minority status and sex together rather than singly.

VOLUMES II-IX, the individual MODVOPPP professions reports, are designed to serve as a brief introduction to each profession--an introduction which gives a sense of the profession's history, work focus, organization, and women's roles and status in it. The study's ANNOTATED BIBLIOGRAPHY, VOLUME X, includes a list of the major bibliographic sources used in our research and preparation of all of the study's reports.

Taken as a group, the eight individual professions' studies and reports include the bulk of the total study's findings and are the collective basis for the conclusions and recommendations presented in VOLUME I, DATA ANALYSIS, FINDINGS, CONCLUSIONS, RECOMMENDATIONS. Under optimal circumstances, each individual profession's report should be read in combination with and after VOLUME I. However, in anticipation of the possibility that individual profession's

volumes may be read alone, there is a certain amount of repetition and duplication of information among the eight professions reports and between them and VOLUME I.

In addition to serving as an introduction to each profession, VOLUMES II-IX also have two other purposes. First, each of the individual reports includes a short set of recommendations designed to address some of the problems women experience which are unique or particular to the profession and which are best considered for implementation by either the schools directly or by the profession's various key associations.

Second, the extensive use of direct quotes from our field interviews with administrator, faculty, and student respondents in school site visits provides a vivid description of women students' experiences in the male-oriented environments of the MODVOPPP health professional schools; the extent to which these experiences are unique to women and not shared by male students; and the extent to which these experiences serve as barriers to women as applicants to and students in the schools. Collectively these reports of women's experiences also demonstrate that in spite of the very real and significant size, structural, work, and practice differences among the eight MODVOPPP professions, women's experiences in these professions and their schools are more similar than they are different in many important ways.

WOMEN IN PUBLIC HEALTH

Table of Contents

	PAGE
INTRODUCTION	1
PART ONE: PUBLIC HEALTH	3
I. OVERVIEW	4
THE PROFESSION	4
THE SCHOOLS	6
II. GROWTH OF THE PROFESSION	7
III. PUBLIC HEALTH TODAY	10
IV. WOMEN IN THE PROFESSION	12
V. PROFESSIONAL EDUCATION	15
OVERVIEW	15
DEGREES OFFERED	16
WOMEN IN SCHOOLS OF PUBLIC HEALTH	16
PART TWO: HOSPITAL ADMINISTRATION	21
I. OVERVIEW	22
II. HISTORY AND DEVELOPMENT	23
III. WOMEN IN THE FIELD	25
IV. PROFESSIONAL EDUCATION	31
BRIEF HISTORY	31
PROFESSIONAL TRAINING SEQUENCE	33
Recruitment	33
Admissions	34
Curriculum: Academic	35
Curriculum: Residency	36
V. HOSPITAL ADMINISTRATION STUDENTS	38
VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	42

	PAGE
PART THREE: EPIDEMIOLOGY	44
I. OVERVIEW	45
II. SCOPE OF THE FIELD	47
III. WOMEN IN EPIDEMIOLOGY	49
IV. PROFESSIONAL EDUCATION	50
V. EPIDEMIOLOGY STUDENTS	51
VI. SUMMARY AND CONCLUSIONS	54
FOOTNOTES	55
REFERENCES	56
APPENDICES	
A. SUMMARY OF INDIVIDUAL AND GROUP INTERVIEWS	58
B. SUMMARY OF ASSOCIATIONS	60
C. DEGREES OFFERED BY SCHOOLS OF PUBLIC HEALTH	62
D. PROGRAMS IN EPIDEMIOLOGY	64
E. SUMMARY OF STUDENT GROUP INTERVIEW ISSUES REGARDING PROFESSIONAL TRAINING	65
F. SUMMARIES OF CHARACTERISTICS OF SCHOOLS AND INTERVIEW RESPONDENTS IN EIGHT MODVOPPP PROFESSIONS	75

WOMEN IN PUBLIC HEALTH

List of Tables

		PAGE
TABLE 1:	SEX OF GRADUATES AND DEGREE OF SPECIALIZATION (BY PERCENT)	14
TABLE 2:	GRADUATE DEGREES AWARDED BY NORTH AMERICAN SCHOOLS OF PUBLIC HEALTH (TORONTO AND MONTREAL INCLUDED), BY SEX: ACADEMIC YEARS 1960-61 THROUGH 1969-70 (NUMBER AND PERCENT)	17
TABLE 3:	DEGREES CONFERRED IN PUBLIC HEALTH BY INSTITUTIONS OF HIGHER EDUCATION IN THE UNITED STATES, BY LEVEL OF DEGREE AND SEX: ACADEMIC YEARS 1968-1969 THROUGH 1971-1972	20
TABLE 4:	SOUTHERN CALIFORNIA HOSPITAL ADMINISTRATORS, BY SEX: 1969 AND 1973 (NUMBER AND PERCENT)	26
TABLE 5:	SOUTHERN CALIFORNIA STUDY, DISTRIBUTION OF ADMINISTRATORS, BY SEX AND HOSPITAL SIZE (NUMBER AND PERCENT)	
TABLE 6:	DISTRIBUTION OF ADMINISTRATIONS BY SEX AND HOSPITAL SIZE (NUMBER AND PERCENT)	28
TABLE 7:	TYPE OF HOSPITAL FACILITY: HOSPITALS IN SOUTHERN CALIFORNIA WITH A WOMAN ADMINISTRATOR: 1969 AND/OR 1973 (NUMBER AND PERCENT)	28
TABLE 8:	FINANCIAL CLASSIFICATION OF HOSPITALS MANAGED BY A WOMAN: 1969 AND/OR 1973 (NUMBER AND PERCENT)	29

APPENDIX A

SUMMARY OF INDIVIDUAL AND GROUP INTERVIEWS, NUMBER OF SCHOOLS VISITED, OTHER CONTACTS WITH THE PUBLIC HEALTH PROFESSIONS 65

APPENDIX E

SUMMARY CHECKLIST OF FEMALE GROUP INTERVIEW ISSES, COMPARATIVE MODVOPPP PROFESSIONS 72

SUMMARY CHECKLIST OF MALE GROUP INTERVIEW ISSES, COMPARATIVE MODVOPPP PROFESSIONS 73

SUMMARY CHECKLIST OF GROUP INTERVIEW ISSUES, PUBLIC HEALTH 74

APPENDIX F

SCHOOL VISIT SITE SELECTION BY CHARACTERISTICS 75

SUMMARY OF INDIVIDUAL INTERVIEWS 76-77

MODVOPPP GROUP INTERVIEW SUMMARY 78

INTRODUCTION

Public health differs from the other health care professions included in this study in several important ways. The profession focuses on health care planning and delivery systems, not on individual patients. Its concern is with prevention and education, not with treatment and cure. It is organizationally and educationally complex in ways which surpass even medicine. Its members represent almost a microcosm of the health care world and include physicians, nurses, educators, engineers, environmentalists, social workers, podiatrists, pharmacists, dentists, industrial hygienists, veterinarians, psychologists, administrators, community health specialists, interested consumers, and many others. The profession is organized into sections representing these different memberships and disciplines including, for example, public health nursing, health administration, maternal and child health, public health education, dental health, and so on. Pre-professional educational and other requirements for entry into public health training programs vary among the disciplines as does the structure, length, and content of the professional training programs themselves. Public health is taught in undergraduate educational institutions, in graduate schools of public health, and in graduate schools of business administration. Different names and degrees may be and often are given to the same basic programs or fields of study by the different institutions in which they are taught.

These differences and complexities in public health posed major difficulties for this study. First, a review of women students and practitioners in the entire profession would have required study resources well beyond those available given the enormous variety of concerns and disciplines represented by the professsion. Second, a review of women's participation in the profession overall would have been misleading since women are the dominant majority in some of the profession's largest sections such as public health nursing. Separate estimates of the number of students or of individuals who work in specific disciplines in public health are not generally available (17:7), and they are certainly almost never available by sex. Third, some of the degrees granted by public health training programs are not first professional degrees, and entry requirements to these programs include other health care professional degrees (e.g. in medicine, dentistry, veterinary medicine, etc.). Finally, we were concerned that the differences between the educational curriculum structure, length, and content

of most public health training programs and those of the study's other professions might make comparability in students'--and in particular, in women's--experiences difficult.

For these reasons, we chose to focus our research in public health on one or two disciplines or sections which we assumed would share with the study's other professions characteristics which might have significance for women as applicants and as students. Consequently our criteria for narrowing and choosing among sections included the following.

- We considered only sections known to be largely male in membership. On that basis we eliminated from further consideration sections such as public health nursing and nutrition.
- We considered only sections which can and do provide the first professional degree and so eliminated from further consideration fields such as public health dentistry, public health veterinary medicine, and so on.
- We considered with special interest those sections whose educational content and pre-professional educational entry requirements are heavily based in math and the physical sciences in order to establish curriculum content comparability with the other health professions in the study.
- We considered with special interest those sections whose curriculum structure resembles the other professions through inclusion of residency, preceptorship, or some other form of "off-site" training.

Based on these criteria, we chose to focus our study of women in public health on hospital administration and epidemiology. Both disciplines are largely male; both offer a first professional degree without requiring any prior professional degree. Hospital administration training includes an off-site residency, and epidemiology is heavily grounded in the physical and natural sciences.

This report reflects and is organized around the study's dual focus on women in hospital administration and in epidemiology. In addition, however, it includes a preliminary and general look at the profession of public health as a whole since we believe that an understanding of and appreciation for the scope and growth of the entire profession places these two special disciplines in perspective.

PART ONE: PUBLIC HEALTH

1. OVERVIEW

THE PROFESSION

> Public Health is the Science and Art of (1) preventing disease, (2) prolonging life, and (3) promoting health and efficiency through organized community effort for:
>
> a. the sanitation of the environment;
>
> b. the control of communicable infections;
>
> c. the education of the individual in personal hygiene;
>
> d. the organization of medical and nursing services for the early diagnosis and preventive treatment of disease; and
>
> e. the development of the social machinery to insure everyone a standard of living adequate for the maintenance of health,
>
> so organizing these benefits as to enable every citizen to realize his birthright of health and longevity. (21)

This definition of public health was set forth in 1920. At that time, public health referred to a specific occupational group: "the health officer of a governmental department and his immediate staff." Today, however, the focus of public health is not as specific. Public health problems have changed. Many new specialties have been developed to deal with these problems, and the scope of settings where public health practitioners work has broadened. The "public" in public health today "...does not mean health enterprises carried out in public institutions versus those carried out in private....Rather, it refers to the health of the public." (10:186-187) This focus and indeed ideology bind the profession together.

Public health is different from other health care professions. While other health care fields focus on individual patients, public health focuses on the health of populations. While other health care fields view their work as caring for the sick, public health sees it as prevention. Individuals in public health work in many different settings: primary health care fields (such as medicine, dentistry, and nursing), other health care fields (such as dietetics and environmental health), health education, research, other "core" sciences such as epidemiology and biostatistics, and health administration. They do not work specifically under primary care professionals as allied health

professionals do, nor do they work directly side by side with primary health care people. They see themselves as independent because their approach to health care is different. Most public health professionals work in institutions, not in private offices. They see themselves as parts of a large health care system, not as independent deliverers of services.

Educational levels of people in the public health profession vary. Some have many years of education leading to an MD degree plus a Doctorate in Public Health. Others have simply a bachelor's degree from one of the newer undergraduate programs located within or even outside of a school of public health. Furthermore, "...work experience alone can and does lead to a professional designation of many of the workers." (10:189-190) This possibility does not exist for the other health care professions. People in the medical profession, for example, know that all other individuals in their profession have had the same base level of educational training and that the acquisition of that training is the only route into the profession. Given these fundamental differences between public health and other health care professions, many in the field have raised the question: is public health indeed a profession?

It is clear that if public health is a profession, it is different from other health care professions. It seems to follow the definition of professions proposed by Bucher and Strauss (10):

> Loose amalgamations of segments...more or less delicately held together under a common name at a particular point in history....The common name, in this case, derives from a general orientation binding together all who are considered in public health...Its practitioners hold a core belief that by organized community effort they can effect an improved health status of a population." (10:186-187)

Public health is the banner under which its members practice their trade.

Public health has had to fight for its status with other health care professions and to fight for survival in a world where solutions (or cures) to many of the diseases which gave birth to public health have been found. Today public health seems to be emerging in the forefront of the health care world. Its emphasis on prevention rather than on sick (after) care enables it to

have a broad focus, and its multi-professional approach to the solution of problems is becoming essential in today's complex and rapidly changing world.

THE SCHOOLS

Schools of public health were first established in the United States 50 years ago as training centers primarily for those who were destined for careers in governments--local, state, and national. Research was directed to the control of infectious disease, purification of water supplies, and sanitary disposal of human waste. Schools of public health emphasized multidisciplinary solutions in a comprehensive approach to health and disease problems. Thus, among the faculty, students, and staff of public health schools were people from an array of disciplines. Today the crucial problems for people in public health have changed, but the method and ideology have remained the same: to view the sources, consequences, and solutions for society's health and disease concerns in a holistic or comprehensive fashion.

In the United States (including Puerto Rico) postgraduate training in public health is available at 19 institutions accredited by the Council on Education for Public Health. (Public health education is also available in many other programs in other universities at both the graduate and undergraduate levels.) In 1971-72, of the 4,803 students enrolled in schools of public health, 2,159 (45%) graduated. The number of accredited schools has increased in the past ten years from 12 to 19 indicating a significant growth in the numbers of training institutions in public health.

II. GROWTH OF THE PROFESSION

The profession of public health developed slowly. Its growth was closely linked to social beliefs about illness and disease, to scientific advances in the health care world, and to legislative policies of federal and local governments.

In the 17th and 18th centuries, the public relied largely on superstition, fasting, and prayer to deliver them from epidemics. (3) Smallpox, scarlet fever, measles, dyptheria, consumption, malaria, cholera, typhoid, and yellow fever all seemed untreatable. Superstition then gave way to sanitation. As a result of the compulsory parish registration in Europe, a crude comparison of death rates was possible from the recorded vital statistics. These statistics showed that the highest death rates existed in the filthy, overcrowded, unventilated, and unsewered dwellings of the poor. (3) Sanitation, then, came to be seen as the answer to disease prevention; its pursuit became the crusade for many health workers. Finally Pasteur and others laid the "filth" theory of disease prevention to rest. It was not the only answer, and in the 1850s and 60s, the germ theory of disease was explored.

In 1872, the need to educate the public about disease prevention became apparent to Stephen Smith, a physician and sanitarian. His efforts eventually resulted in the formation of the American Public Health Association (APHA). The focus of the new association was on sanitation, and its aim was to educate the public, the medical profession, and the government in the role that each had to play in the creation of sanitary living and working conditions.

The early years of the Association were occupied, on a substantive level, with efforts to determine the cause of yellow fever. But the Association's central mission was a largely political mission: gathering disparate and dispersed sanitation advocates together in an organization which could gain national visibility and thus national power for reform. And here its problems proved to be more intractable than were the cause and cure of yellow fever. Not only did the crisis of the Civil War press such concerns as national health into the background, but one of the core issues of that war--states' rights--created a political stalemate over the role of national government which was not to be resolved by

the war itself. The Public Health Association's hopes for a national body which would regulate sanitation were not to be realized for several decades.

While the Association's political agenda was at a stalemate, scientific advances were not. The discovery of the causative organisms of various diseases such as tuberculosis, leprosy, malaria, and dyptheria brought forth the development of vaccines and the study of immunology. Discovering the cause of yellow fever and the resulting means of prevention ended the death and terror of thousands of Americans.

Thus an Association which began as a reform movement left its political agenda behind for the time being and became a "profession" whose agenda was the furtherance of a domain of scientific knowledge. In 1913, Harvard and MIT created schools of public health and others followed their example. Now established as a legitimate academic discipline, public health could become a movement once again, and support for a national commission on public health began to gain momentum in Congress.

Power was slow to come. In 1921, a report conducted by the APHA of a survey of health departments revealed that the average annual expenditure per capita on health practices was 52 cents. In 1928, only 11% of the cities required their health officers to be college graduates; only one out of every five health officers was appointed by a Board of Health, and their average annual salary was $4,420. (3)

It was not until after the Depression that the government renewed its expansion of federal health care services with such actions as the Wagner Bill which amended the Social Security Act to extend to medical services. Schools of public health began to upgrade themselves and gain further legitimacy in the universities. By 1946, ten schools of public health were accredited to confer a Masters of Public Health degree and five to award a doctorate. The federal government increased its support of national health concerns through such legislation as the Hospital Survey and Construction Act (Hill-Burton) in 1946 and the creation of the National Institutes of Health in 1949. Finally, in 1959, Congress established the Department of Health, Education, and Welfare. The 1960s

brought major increases in governmental support of public health with the 1965 Social Security Amendments establishing Medicaid and Medicare, and in 1966 came the Comprehensive Health Planning and Public Health Service Amendments requiring each state to have the active participation of all elements of the health care system in the planning process.

III. PUBLIC HEALTH TODAY

Despite the obvious relationships between the work of those in public health who seek to better the health of many and of those in the personal health system who seek to treat illness in single individuals, the gap between the two systems is at times very broad. David Rogers, an MD who is not in the public health system, expressed a private sector perspective on that gap at a 1973 meeting of public health workers:

> The point I wish to make is that our entire complex, expensive system of personal health services rests squarely on your achievements, and perhaps on your backs. It is the advances in public health made during this century which have permitted this nation to make its remarkable commitments to individual personal health services. In any rational rating of what measures have made the largest quantitative differences in the health of man, those emerging from public health would beat hands down anything devised by those working in the one-to-one personal health system. So, by all that is logical, those of you who set the stage for modern personal medicine should be at the top of the heap and viewed as senior partners in this worthy endeavor.
>
> But now the cruel paradox: despite your record and, indeed, at a time when certain special kinds of skills possessed by public health professionals are critically needed, you seem to have lost your place in the sun, and are faced with progressive erosion of the institutions which you have worked so hard to establish.
>
> In the last decade we have seen the progressive weakening of local, county and state public health agencies, and public health clinics. We have watched the dissolution of the once proud and distinguished public health service medical officers corps. Public health service hospitals are apparently to vanish from the scene, and shifting national priorities are now leading to the cruelest blow of all--sharply declining federal support of schools of public health. (16)

Rogers gives a picture of where he believes the profession of public health is today and cites three reasons for the profession's loss of influence:

1) As communicable disease problems were largely eliminated by higher standards of living, clean food, clean water, immunization, and antibiotics, the responsibilities for the residual communicable disease problems were transferred to the personal health sector.

2) Community health education moved increasingly from the hands of public health professionals to the grade schools, high schools and news media.

3) Governmental agencies not primarily concerned with health assumed responsibilities for many aspects of health care with the growing centralization of the federal government. (16)

Thus, according to Rogers:

> Public health professionals are the victims of their own successes. Those very successes and the accompanying forward march of American society eliminated many of the problems which formerly occupied their time and left them with but two of the five areas...(considered)...as pressing unanswered problems in the latter part of the 20th century. These are the problems of the environment, and the problems of organizing more effective medical care services. (16)

However, public health professionals have realized their successes in infectious diseases. No longer is yellow fever the challenge of public health. Today it is such things as the effects of air pollution on the respiratory system and of potentially cancerous elements in the public drinking water systems. Public health has shifted its focus to the seemingly chronic conditions of cancer, heart disease, and mental illness. Today public health professionals foresee a re-emergence of their position with the changes in the health care system in America of the middle 1970s. It is the public health profession which is assuming much of the responsibility for planning, managing, and directing the new health care delivery systems which are required for America's health needs. The impact of its planning and administrative work has powerful potential in both public and private health care planning, research, and service delivery systems.

IV. WOMEN IN THE PROFESSION

Efforts to gain an understanding of the role of women in the public health profession are complicated by the fact that the profession is a consortium of several different professions linked by a common orientation and approach to health care. Some of the "member" professions, such as public health nursing, have of course always been almost exclusively female in membership, while others such as public health medicine (doctors) and hospital administration have been almost exclusively male.

We do know, however, that historically the profession has placed explicit limits on women's participation. In the early days of the American Public Health Association, women were not allowed to attend meetings. Finally, in 1887, they were admitted, for example, "more for the purpose of decoration than for any attempt to win the feminist vote." (3:15) They gradually did gain status and recognition as the profession broadened from sanitation officials to include the nursing profession and other aspects of the health care delivery system.

Without question, public health nursing has been one of the most visible aspects of the profession. Consequently women (because most nurses are women) have been the visible force of public health. As a spokesperson for the American Public Health Association stated:

> *They are the backbone of the profession. In almost every community there is a visiting nurses' association. These are the public health workers who go from door to door to see patients. These women are the ones doing the public health patient work.*

The women's voice in public health has always been louder and stronger than the women's voice in medicine, for example, because the number of women has always been proportionately higher than in medicine. Women were elected presidents of the Association in 1948 and 1972, a clear indication of the acceptance of women in the profession. No woman has ever been president of any of the other MOD-VOPPP professional or educational associations. However studies show that women do tend more often to specialize in what the profession considers it lesser-status positions than do men, and consequently their voice does not have as much power as the men's.

According to a Survey of 1956-1972 Graduates of Schools of Public Health conducted by the Johns Hopkins University, some specialties of public health are clearly sex-typed:

> Occupational health, environmental health, dental public health, and radiological sciences are degree specialties comprised almost exclusively of men, and the proportion of men in these specialties far exceeds the total proportion of men in the profession. The nutrition and public health nursing specialties, on the other hand, are comprised almost completely of women, and in proportions that far exceed the total proportion of women in public health. Between these extremes are the specialties where the proportion of males exceeds that of the total population of graduates (epidemiology, public health administration, and biostatistics), and those where the proportion of women exceeds that of the total (public health education, maternal and child health, population studies, behavioral sciences and mental health).
>
> The extent to which men and women select degree specialties in which men or women predominate can be seen in the right-hand portion of Table 1. (See Table 1, next page.) By definition, these degree specialties are rarely selected by those of the opposite sex. The predominately male specialties (occupational health, environmental health, dental public health, and radiological science) were selected by 24 percent of the men but only two percent of the women. The predominately female specialties (public health nursing and nutrition) were selected by 34 percent of the women but only one percent of the men. The majority of both men and women, however, selected degree specialties which were not so predominately male or female. Women, for example, were as likely to select public health administration, epidemiology and biostatistics as they were to choose public health nursing and nutrition. Specialization in public health administration is clearly one specialty not predominately female which is of appeal to women and is perhaps the route out of traditional careers in public health nursing. (18:110-112)

TABLE 1

SEX OF GRADUATES AND DEGREE OF SPECIALIZATION (BY PERCENT)

Specialization	Sex Distribution in Each Degree Specialization				Percent in Degree Specialization	
	Male	Female	Total	(Unweighted Number)	Male	Female
Occupational Health	96.8	3.2	100.0	(144)	5.9	0.4
Environmental Health	95.9	4.1	100.0	(375)	14.1	1.3
Dental Public Health	94.6	5.4	100.0	(57)	2.2	0.3
Radiological Sciences	93.7	6.3	100.0	(56)	2.2	0.3
Epidemiology	81.1	18.9	100.0	(383)	12.5	6.3
Public Health Administration	78.3	21.7	100.0	(1,307)	40.1	23.9
Biostatistics	70.7	29.3	100.0	(186)	5.0	4.5
Mental Health	66.1	33.9	100.0	(61)	1.7	1.8
Behavioral Sciences	61.5	38.5	100.0	(42)	1.0	1.4
Population Studies	61.0	39.0	100.0	(61)	1.4	1.9
Maternal Child Health	52.8	47.2	100.0	(171)	3.7	7.1
Public Health Education	50.9	49.1	100.0	(364)	7.1	14.7
Nutrition	12.4	87.6	100.0	(131)	0.7	10.1
Nursing	4.4	95.6	100.0	(273)	0.5	24.1
Other	65.5	34.4	100.0	(77)	1.7	1.9
TOTAL	68.1	31.9	100.0	(3,688)	99.8	100.0
(Unweighted Number)					(2,482)	(1,206)

SOURCE: *White, Paul, et al., A Survey of 1956-1972 Graduates of American Schools of Public Health, The Johns Hopkins University, December, 1974, page 111.*

V. PROFESSIONAL EDUCATION

OVERVIEW

A brief look at the 19 postgraduate training institutions for public health professionals provides an overview of the profession's educational systems. All of these graduate schools are within universities. All are urban--that is, distinctly cosmopolitan in outlook--although one or two are located in what might be termed suburban or semi-rural geographic areas. Only one is part of the respective medical school, functioning as its department of epidemiology and public health. The chief executive officer of the department--the Chairman--is responsible to the Dean of the Medical School. All other schools of public health are independent units, their Director or Dean being responsible to the President of the university, to the Vice-President for Health Affairs, or to some similar university authority. Ten of the universities are owned and operated by the state (or commonwealth, as in the case of Puerto Rico) in which they are located, and the remaining by private, non-profit corporations.

Schools of public health engage in a variety of activities. They offer training opportunities for students who are seeking a career in one or more of the three principal areas of public health: teaching, research, and service. They have extensive programs of basic and applied research in many fields (e.g. communicable diseases, mental illness, cancer, behavioral science, studies in public health, degenerative diseases, accidents, hazards, ionizing radiation, environmental health, occupational health, and nutrition) and in the development of effective methods for the application of knowledge to community or nation, both at home and abroad. Increasing emphasis by the schools of public health has been placed on training in management and the administration of health services. (19)

Public health programs are closely tied to the concept of prevention and, like prevention, are the least dramatic when they are the most effective. As a recent American Journal of Public Health article put it:

> When a problem is avoided, no crisis occurs, hence no "miracle" is performed and the results of the effort lose visibility. (1:32)

Education in public health does not specifically train people to treat disease. Cure is not the exciting event as perhaps it is in medicine. Rather, the rewards of the training are less tangible; they come from working for a common philosophy of health care.

DEGREES OFFERED

There is a wide variation in the terminology applied to degrees in public health. In 1971, there were 30 different degree titles and only five degree programs have the same name in more than three schools. (19) (See Appendix C for complete list.) Though the variation in terminology is not always based on differences in requirements and content of courses, public health is unique among the MODVOPPP professions in the number of degrees it offers.

The types of degrees offered may be divided into two kinds. One includes professional degress (such as the Masters of Public Health, MPH, and the Doctor of Public Health, Dr. PH). The other includes the academic degrees (the MA, MS, and PhD). The overwhelming proportion of all students enroll in the professional degree programs.

Until around 1970, a great majority of people in the MPH and Dr. PH programs had prior professional degrees, such as the MD or the DDS. They came to schools of public health for training in a specific specialty and because they shared the ideology of the profession. Recently, people who share the public health philosophy and want training past the baccalaureate level but who do not have prior professional degrees have been entering these programs. Consequently the composition of the student body has been changing to include students who are younger and who do not have the same strong sense of their future professional direction and focus as do older students.

WOMEN IN SCHOOLS OF PUBLIC HEALTH

The proportion of female graduates in schools of public health is far greater than it is in many other health care professions. (See Table 2.) In medicine, for example, 8.4% of all graduates were women in 1969-70. For the same year, 34% of all graduates of schools of public health were women.

TABLE 2

GRADUATE DEGREES AWARDED BY NORTH AMERICAN SCHOOLS OF PUBLIC HEALTH (TORONTO AND MONTREAL INCLUDED), BY SEX: ACADEMIC YEARS 1960-61 THROUGH 1969-79 (NUMBER AND PERCENT)

Academic Year	Male		Female		Total
	Number	Percent	Number	Percent	
1960-61	556	72.2	214	27.8	770
1961-62	620	77.3	182	22.7	802
1962-63	627	73.7	224	26.3	851
1963-64	739	74.1	259	25.9	998
1964-65	813	71.2	329	28.8	1,142
1965-66	831	68.8	377	31.2	1,208
1966-67	795	68.1	374	31.9	1,169
1967-68	893	64.9	483	35.1	1,376
1968-69	1,061	66.4	538	33.6	1,599
1969-70	1,148	65.9	593	34.1	1,741
TOTAL	8,083	69.3	3,573	30.7	11,656

SOURCE: Table compiled and percentages calculated by Matthews (10) from unpublished data on file at the American Public Health Association.

Matthews presents some interesting data on women in schools of public health:

> In schools of public health, physicians predominated as students in the schools until the end of the 1940s, and they were, of course, primarily male (women physicians in the United States remain at approximately 7% of all physicians). Dentists, veterinarians, engineers, and sanitarians are also predominantly male (1), and along with the physicians in 1969-70 comprised 28.3% of the entering students. Nurses, nutritionists, and social workers are predominantly female and accounted for 22.7% of those entering that year. Thus 51% were accounted for in generally sex-specific professional categories. The remaining 49% of entering students, however, were from backgrounds which in today's culture are less sex-typed. Although there are no data which specify what proportion of this 49% of entering students in 1969-70 were female, an analysis, on the same categorical dimensions, of those graduating in 1969-70 sheds some light. (2)
>
> Those graduating who were categorized in the same five male professions as above represented 34.6% of the 1,741 graduates. Graduates by the same three female professional categories above, plus physical therapists and dental hygienists, which were also identified in this set of data and which are also predominantly female professions, represented 19.2% of all graduates. Thus, 53.8% were accounted for in sex-specific categories, and 46.2% were thus from what appear to be non-specific groups. Since it is indicated that 34.1% of all graduates were female in 1969-70, and since 19.2% were accounted for by sex-specific professions, that leaves 14.9% of women graduates scattered through all the other categories represented in the backgrounds of the 46.2% that were non-specific for sex....In sum, in gross percentages women have represented only approximately one-third of the student bodies of schools of public health in recent years, but out of the large group of students who do not have generally sex-specific entering credentials, their proportion is even smaller...(10:128-129)

It is interesting to look at the kinds of degrees women are receiving in public health compared with the men. Current data are not readily available but the differences in four recent years are striking (see Table 3 below).

Slightly higher proportions of women than men received bachelor's degrees between 1968 and 1970 (approximately 47% men and 52% women). In 1970-71 there was a marked increase in the number of people receiving bachelor's degrees and a vast majority of those were men (72% men, 28% women). This dramatic rise in total enrollment and sudden shift in male/female proportions does not occur for the master's and doctor's degrees.

An increasingly higher proportion of men is evident (in the late 1960s) as the degree requires more years of study and affords more status. In 1968-69, 83% of all those seeking doctor's degrees were men; 17% were women. These proportions do appear to be changing: in 1971-72, 31% of all those seeking doctor's degrees were women. Clearly higher proportions of women have been entering doctoral programs.

It is important to note that the overwhelming number of students enrolls in the master's programs. Bachelor's programs are very new and in 1971-72 had only a total of 121 graduates in the United States, while the total graduated in doctoral programs for that year was 81. This must be contrasted with the number of graduates of schools of podiatry, which had the lowest number of students of all health care fields. In 1971-72, 310 received doctoral degrees from podiatry schools. By contrast, 1,533 people were graduates from the master's programs of schools of public health. For that year 60% were men, 40% were women. These proportions have remained relatively stable over the four year period with a slight increase in the proportions of women in the later years. (See Table 3.)

TABLE 3

DEGREES CONFERRED IN PUBLIC HEALTH BY INSTITUTIONS OF HIGHER EDUCATION IN THE UNITED STATES, BY LEVEL OF DEGREE AND SEX: ACADEMIC YEARS 1968-1969 THROUGH 1971-1972

Academic Year	Bachelor's Degree			Master's Degree			Doctor's Degree		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
	NUMBER OF DEGREES								
1968-69	83	38	45	1,160	755	405	78	65	13
1969-70	58	28	30	1,210	771	439	90	70	20
1970-71	127	91	36	1,257	784	473	85	66	19
1971-72[a]	121	89	32	1,533	922	611	81	56	25
	PERCENT								
1968-69	100.0	45.8	54.2	100.0	65.1	34.9	100.0	83.3	16.7
1969-70	100.0	48.3	51.7	100.0	63.7	36.3	100.0	77.8	22.2
1970-71	100.0	71.7	28.3	100.0	62.4	37.6	100.0	77.6	22.4
1971-72[a]	100.0	73.9	26.4	100.0	60.1	39.9	100.0	69.2	30.8

SOURCE: *"Minorities and Women in the Health Fields", June 1974, United States Department of Health, Education, and Welfare, Public Health Service and Health Resource Association.*

[a] *Women in Health Careers, American Public Health Association, June 1975.*

PART TWO: HOSPITAL ADMINISTRATION

I. OVERVIEW

It is the responsibility of the hospital administrative branch to:

- employ, train, manage, and pay the various categories of personnel;
- feed and house patients;
- purchase the necessary supplies and services;
- maintain the physical plant and utilities;
- supply clerical, communication, and transportation services. (8:76)

The hospital administrator is that individual who takes charge of the institution; s/he is responsible for coordinating all the hospital's services, for developing an effective team of physicians, nurses, dieticians, pharmacists, housekeepers, engineers, and others who work in the hospital and for seeing that adequate supporting facilities, services, and equipment are available. The administrator consequently must not only be responsive to the needs of the large number of different hospital personnel but must also be aware of the changing health needs of the community and of new health care delivery plans to meet those needs.

The hospital administrator's role as manager is a complex and ambiguous one. Physicians have an independent managerial status within the hospital. Thus the hospital administrator must manage an organization in which there are two parallel and independent authority structures in operation.

II. HISTORY AND DEVELOPMENT

The history of hospital administration is marked by the dramatic changes in the institutions which deliver health care. During early Greek and Roman civilizations the priests of ancient temples exercised the function of hospital administrator. With Christianity, Christian clerics assumed this role. Hospitals were later build adjacent to churches so that monks could direct them, and during the Renaissance hospitals provided large incomes for the clergy.

The influence of the church on hospitals diminished with the Reformation; physicians, laymen, and nurses began to take on this role. In 1854, during the Crimean War, Florence Nightingale brought order out of chaos in a British military hospital and prompted a researcher on hospital administration to describe her a century later as "truly the first hospital administrator, a genius in organization." (6)

As the hospital changed from a place where the sick came awaiting their demise to one of definitive and curative treatment for all, its administrators were recruited from the ranks of physicians, nurses, pharmacists, and other lay people connected with the hospital administration. Business men and engineers were later brought into the hospital to serve as administrators because it became apparent that business experience could be applied advantageously to the organization and management of health service.

The first full-time officer in the hospital in the late 19th century was the nurse. In 1918, with the adoption of the "minimum standard" for hospitals, chief executive officers had to have experience in management as well as knowledge concerning quality control. Between 1915 and 1930, business managers were given more and more responsibility. Yet in 1929, according to Michael M. David (6), 46% of all hospital administrators were physicians (with 32.5% in 1952 and 22.8% in 1962), 20% were nurses, and 34% were sisters, laymen, and laywomen.

With the beginning of the Depression in 1929, the total number of hospitals in the United States decreased from 7,500 to 6,437 in 1933. (5) After World War II, new graduate programs opened up in hospital administration between 1945 and 1950. In the 1950s, hospitals began to resemble corporations. The federal government began taking a more active role in the expansion and development of a national health care delivery system. Hospital administration had become a job requiring broad knowledge of health care and management in order to successfully provide internal management of therapeutic institutions.

III. WOMEN IN THE FIELD

Despite the large number of women in hospitals, their organizational status has traditionally been low. Women have filled all positions in the hospital staff in overwhelming proportions except for the high-status positions of physician and administrator. Though Florence Nightingale was, in fact, a hospital administrator, her view of the role of women was as helper to the doctor, and it was in this role that she saw the care of the sick to be a natural and acceptable activity for upper class women.

Nuns have been administrators of Catholic hospitals, and for a long time they were the only women in hospital administration educational programs. But it is only recently with women moving into all professions that women have begun to even apply to programs of hospital administration.

What place have women made for themselves in hospital administration today? Mary L. Quillan (14) reports a 1965 Cornell study which found that 22% of all hospital administrators were women. They ran relatively smaller hospitals than men--56% of the women in the study were administrators of hospitals with less than 100 beds compared to 44% of the men. Women administrators had less formal education than the men. And yet, 70% of all employed in the health care field were women, and 75% of all hospital personnel were women.

A more recent study conducted by Josephine Nerlinger (12) found that women's salaries were less than men's in comparable positions. Men in her study also had more prior experience in business than the women.

Pecarchik and Mather (13) conducted another study comparing male and female nursing home administrators. The study found 30% of the men, in contrast to only 2% of the women, had previous management experience. The men tended to come from unrelated fields while a majority of the women were from the health field. Educational differences were noted. Sixty percent of the men had a college education; 58% of the women had a professional (usually nursing) education. Women had less job mobility. They averaged 9.2 years per position, compared to only 6.2 years per position for men.

A study conducted in 1973 in Southern California proposed to evaluate the impact of affirmative action programs for women by determining if, in Southern California, at least 20% of the hospital administrators were women as cited by the 1965 Cornell study. This study also proposed to look at whether Southern California women managed smaller facilities than men. Both the Cornell study (1965) (14) and Josephine Nerlinger (1972) (12) had found that women usually administered smaller facilities than did men.

TABLE 4

SOUTHERN CALIFORNIA HOSPITAL ADMINISTRATORS, BY SEX:
1969 AND 1973 (NUMBER AND PERCENT)

	1969	1973
WOMEN		
Member of Religious Order	17 (7.7%)	12 (4.9%)
Non-Member of Religious Order	13 (5.9%)	24 (5.7%)
TOTAL	30 (13.6%)	26 (10.6%)
MEN	190 (86.4%)	219 (89.4%)
TOTAL NUMBER OF ADMINISTRATORS	220 (100%)	245 (100%)

SOURCE: "A Prospective Study of the Effect of Affirmative Action Programs". Mary L Quillin, unpublished, undated.

The Southern California study yielded interesting results. It found that during the study period (1969-73), the number of hospitals increased by 25; the number of male administrators increased by 29; and the number of female administrators decreased by four. (The result was reflected by the relative percentages in the whole sample. The percentage of men increased from 86.4% in 1969 to 89.4% in 1973 and the percentage of women decreased from 13.6% to 10.6%.) The women were divided into two groups; those who were members of religious orders and those who were not. There was a loss of five female members of religious orders between 1969 and 1973, while the number of non-members of religious orders remained essentially the same (13 in 1969 and 14 in 1973). What this study found, then, was that the number of women administrators in Southern California was less than the 20% predicted in the literature. Between 1969 and 1973 there was a decrease in the number of women administrators while the total number of facilities increased.

TABLE 5

SOUTHERN CALIFORNIA STUDY, DISTRIBUTION OF ADMINISTRATORS BY SEX AND HOSPITAL SIZE (NUMBER AND PERCENT)

Number of Beds	1969 Women		1969 Men		1973 Women		1973 Men	
Less than 100	11	(36.7%)	92	(48.4%)	9	(34.7%)	92	(42.0%)
101-200	6	(20.0%)	48	(25.3%)	4	(15.4%)	62	(28.3%)
201-300	5	(16.7%)	18	(9 5%)	5	(19.2%)	30	(13.7%)
301-400	4	(13.3%)	16	(8.4%)	5	(19.2%)	15	(6.9%)
Over 400	4	(13.3%)	16	(8.4%)	3	(11.5%)	20	(9.1%)
TOTAL	30	(100.0%)	199	(100.0%)	26	(100.0%)	219	(100.0%)

SOURCE: "A Prospective Study of the Effect of Affirmative Action Programs". Mary L. Quillin, unpublished, undated.

The California study does not support the previous findings that women are administrators of smaller facilities than men. Instead, it found that a higher proportion of men were administrators of smaller hospitals in both 1969 and 1973. In 1969, 36.7% of all women administrators managed facilities with less than 100 beds compared to 48.4% of the men in 1969. In the 101-200 bed category, the proportion for men was also greater than for women. Consequently, in 1969, 43.3% of the women managed hospitals of more than 200 beds compared to only 26.3 % of the men; in 1973, 49.9% of the women managed facilities of more than 200 beds compared to only 29.7% for men. Consequently higher proportions of women managed larger facilities.

Of the 220 hospital administrators in Southern California in 1969, 14% were women. Yet higher proportions than their average managed larger facilities; 21% managed facilities with over 200 beds. The overall number of administrators increased in 1973 but men and women did not increase in equal numbers. Eleven percent of all administrators were women while 17% of all those running hospitals of over 200 beds were women.

TABLE 6

DISTRIBUTION OF ADMINISTRATIONS BY SEX AND HOSPITAL SIZE

(NUMBER AND PERCENT)

	1969			1973		
Number of Beds	Women	Men	Total	Women	Men	Total
Less than 100	11%(11)	89%(92)	100%(103)	9%(9)	9%(92)	100%(101)
101-200	11 (6)	89 (48)	100 (54)	6 (4)	94 (62)	100 (66)
201 - over 400	21 (13)	79 (50)	100 (63)	17 (13)	83 (65)	100 (78)
Total	14%(30)	86%(190)	100%(220)	11%(26)	89%(219)	100%(245)

SOURCE: "A Prospective Study of the Effect of Affirmative Action Programs", Mary L. Quillin, unpublished, undated.

The study also showed that over 80% of the facilities with women administrators were general acute facilities in both 1969 and 1973.

TABLE 7

TYPE OF HOSPITAL FACILITY: HOSPITALS IN SOUTHERN CALIFORNIA

WITH A WOMAN ADMINISTRATOR (NUMBER AND PERCENT)

1969 AND/OR 1973

	1969		1973	
GENERAL ACUTE	24	(80.0%)	22	(84.6%)
PSYCHIATRIC	2	(6.7%)	3	(11.5%)
MATERNITY	2	(6.7%)	0	(0.0%)
PEDIATRIC	2	(6.7%)	1	(3.9%)
TOTAL	30	(100.1%)	26	(100%)

SOURCE: "A Propective Study of the Effect of Affirmative Action Programs", Mary L. Quillan, unpublished, undated.

In addition the study indicated that the percentage of women managing proprietary hospitals was increasing; the absolute number of women administering non-profit institutions had declined since 1969. This decline was equal to the decrease in the number of nuns. In 1969, 56.7% of the women administrators were nuns; in 1973, 46.2% of the women administrators were nuns.

TABLE 8

FINANCIAL CLASSIFICATION OF HOSPITALS MANAGED BY A WOMAN

1969 AND/OR 1973 (NUMBER AND PERCENT)

	1969	1973
NON-PROFIT	24 (80%)	19 (73%)
PROPRIETARY	6 (20)	7 (27)
TOTAL	30 (100%)	26 (100%)

SOURCE: "A Prospective Study of the Effect of Affirmative Action Programs". Mary L. Quillan, unpublished, undated.

This state of affairs for women in hospital administration still continues, according to an article by Applebaum. He contended that although women had come a long way, they still had much to do before they broke into top management positions. Appelbaum cited a study conducted by Marcy Sheinwold at the State University of New York, Stony Brook, which reported that women do not fare as well as men when they graduate from programs in health and hospital administration.

Among Sheinwold's significant research conclusions were:

- In the light of changing employment conditions, female graduates are more likely than male graduates to be found in non-hospital settings. While five out of 10 female graduates secured hospital positions, seven out of ten of the male graduates did. As expressed in the respondents' comments and interview findings, Ms. Sheinwold notes, "Female graduates, unless they are nuns, are often excluded from top-level administrative position in hospitals. Furthermore, the larger percentage of female graduates unemployed after graduation suggests the existence of barriers to the employment of women in health administration; 7.6 percent of the women were unemployed as compared to 0.6 percent of the men. "

- While approximately 64 percent of the men hold line positions (direct administrative responsibilities either as administrators, associate/assistant administrators, or department heads), only about 44 percent of the women do. A larger proportion of the female graduates are found in positions that involved research, program analysis and planning, while male graduates are more likely to be found in management-oriented positions.

- On the whole, recent female graduates tend to be older than their male counterparts; while only 3.1 percent of the men are over 20, 16.7 percent of the women are. Female graduates are also more likely to be unmarried than their male counterparts.

- The administrative ranks (or levels) of the positions obtained by the male and female graduates do not differ significantly. The majority of the positions of the entire sample, 75.5 percent, fall one or two administrative levels below the chief executive.

- Salary levels of male and female graduates do not differ significantly.

- Almost all (98.3 percent) of the graduates surveyed are employed on a full-time basis. Women are just as likely as men to be found in full-time positions. (2)

These results differ from the findings of Josephine Nerlinger's study in 1973. (12) It seems that women coming out of graduate programs today are getting more equal opportunities with men than they did before.

Ms. Sheinwold and others told the staff of the journal Hospitals that the women's movement, affirmative action programs, and the proposed Equal Rights Amendment to the U.S. Constitution, among other developments, had changed women's aspirations in all fields, including health care. Yet, she notes, "Everyone says a 'bright woman' will get a job. She probably will get a job, but it also may not be her first choice." (2)

These studies reflect the fact that hospital administration embraces, to a large degree, those qualities generally praised in men rather than in women. The job of employee, not employer, has been the traditional role of women. The need to make crucial management decisions, to run a large organization, and to be the visible public decision maker has usually been delegated to men. Although women often manage the home (buy the food, pay the bills, raise the children, clean the house), they have rarely been allowed this authority and responsibility outside of the home. Being a hospital administrator demands characteristics generally viewed as male characteristics.

IV. PROFESSIONAL EDUCATION

BRIEF HISTORY

Educational programs for hospital administrators have had different home bases. In 1899, six hospital superintendents formed the Association of Hospital Superintendents. They expressed concern for some type of educational preparation for hospital administration. In 1905, the Harvard Business School was established as the base to provide education for administrators. By 1910, over a dozen business schools had been organized, many of which had programs in hospital administration. In 1913, the American Hospital Association published a committee report emphasizing the desirability of university training for hospital administrators. An investigation had been conducted which concluded that specific educational programs were necessary for hospital administrators.

World War I halted educational programs. After the war, the business manager emerged as the hospital administrator. In 1922, a "Committee on the Hospital Administrators" was organized as a result of findings and recommendations of a conference sponsored by the Rockefeller Foundation. In 1924, Marquette University established a college of Hospital Administration. This represented the first long, formal university training in education for hospital administration for which there is a record of student participation. However four years later this college was discontinued and hospital administration was offered only in short courses by other universities. In 1930, Duke University Hospital inaugarated a two year formal apprenticeship program; entrance to the program required a baccalaureate degree.

In 1934, the University of Chicago established the first graduate program devoted solely to hospital administration, which still exists. It was established in the School of Business. Subsequently a number of programs were begun. Northwestern University in 1943 established a program; in 1945, Columbia University; in 1946, Minnesota and Washington (in St. Louis) Universities in 1947, Johns Hopkins and Yale; in 1948, St. Louis University and the University of California; in 1950, the Universities of Pittsburgh and Iowa; and in 1951, Baylor University established programs in hospital administration. Clearly the momentum had begun.

The Association of University Programs in Hospital Administration (AUPHA) was founded in 1948 in order to improve the quality of these programs. The name was changed to the Association of University Programs in Health Administration in 1975.

In 1954, the "Olsen Report" was published. It represented the most comprehensive study that had ever been conducted in education for hospital administration and it had considerable impact on the graduate programs. By 1960, six more programs in hospital administration had been established: Cornell, Montreal, Xavier, George Washington, Medical College of Virginia, and Michigan.

The question of the best location of graduate programs in hospital administration within the university setting has been argued for many years. Public health advocates have argued that schools of public health were best because the students were given a broader perspective with which to approach the administration of health care institutions. They argued that programs in hospital administration provided the student with too narrow a view of the health care environment because the hospital was overemphasized in their education. (4)

Educators from programs in hospital administration obviously took an opposing view. Whether their programs were located in medical schools, graduate schools, separate schools of hospital administration, or schools of public and business administration made little difference. Proponents of this view argued that students from schools of public health were too highly oriented toward environmental health problems and lacked the knowledge and skills to administer hospitals, the cornerstone of the health care industry. (4)

The business school had its supporters who were convinced that what the student needed most was a good foundation in the principles of business administration. Such an education, they argued, could best be acquired if the program were under the aegis of the business school. This position was bolstered by the Olsen Report in 1954 when it recommended that the business school seemed most appropriate as the locus for the programs. Naturally the public health advocates and the hospital administration enthusiasts were unhappy with the report's recommendations. (4)

In 1967, an empirical study was published by Wren (4) which championed none of the above positions. He looked at public health and business school programs and evaluated academic content, informed opinion of program directors, opinions of administrators who had assistants from the two different types of programs, positions held by graduates, and the results of an attitude survey of graduates from the two types of programs. From the results of his investigation Wren concluded that there were no important differences between graduates of programs located in schools of public health and those in schools of business administration. Furthermore, he found no important differences between the two types of programs themselves.

In 1969, it was clear the dilemma was still not solved. Of 29 programs in hospital and health services administration, seven were in schools of public health, two were in health services programs, five were in straight business programs, four were in business and health services combined, six were in schools of medicine, and five were in graduate schools. (4) Today it seems as if these programs will stay more readily in health care fields, but business programs still obviously have an important stronghold.

THE PROFESSIONAL TRAINING SEQUENCE

Programs in hospital administration vary from school to school and according to whether their base is in a School of Business, Public Health, Allied Health, medicine, or elsewhere. A sample of all programs in hospital administration was not within the boundaries of this study since our focus was limited to hospital administration programs in two schools of public health.

Recruitment

In schools of public health the focus of the recruiting and application process is at the departmental rather than the school level. People do not enter public health schools for overall basic professional training and then choose a specialty as is the pattern in most of the other MODVOPPP professions. Rather, they must know their field of study before they enter the school. In fact, according to informants in one school we visited, if a student comes requesting training in "public health", the student is instructed to return when s/he knows "what part of public health they want."

Admissions

Most public health programs require that applicants have a cumulative undergraduate grade point average of 3.0 on a 4.0 scale and that they take the Graduate Record Exams (some programs require the Graduate School of Business Exam). Applicants must present letters of recommendation, and for most of the programs they must appear for an interview. This is the general application process that all students interested in hospital administration must follow. Students must apply and be accepted by the School of Public Health in order to be a part of the hospital administration program. The department manages the entire process up to the final acceptance.

Given that the hospital administrator has traditionally been a man, this study sought to assess whether women fare differently than men in the application process. According to the dean of a school with a hospital administration program, there is currently a higher ratio of admissions for women than for men in that program. The reason he gave is that the women are:

> *...primarily, just more qualified...(have) strong applications... (a) stronger grade point average, clearer sense of what sort of professional direction, motivation and those things that you try to factor in...that are a part of our admissions criteria. Having said that, I must add that I think that it has been our wish to correct this (sex) imbalance... (Dean, male)*

(In this dean's school a higher proportion of the women applicants were accepted, but it must be noted that three times as many men as women applied to this program.)

The interview is an important part of the hospital administration programs URSA visited. In both programs at least three different people interview each applicant. One of the female students interviewed in the hospital administration program was very satisfied with her interview and felt that the interviewer was trying to make "an honest assessment of my personality". It was this woman's feeling that a good hospital administrator was not so much a product of the schooling process as it was simply a matter of an individual having "innate" leadership potential. According to her, this was being sought in the interview, and sex was not a factor.

> *It's the ability, and I don't think it's a learned ability; I think it's an innate ability to command the respect of other people, and in such a way that you can get them to work for you in a productive manner. It's a way of talking to people and dealing with people on a level at which you can get them to do things. I don't think it's something you can learn...you can't learn it out of a book. It's something you're socialized into as a role model or whatever, and it's just a way of being. They say that it's done (determining leadership potential), that it can only be done in the interview, and as I understand it, it's almost an assessment of a person's personality and how they react to questions. And how they ask questions in return. An insight of perceptiveness into what administraion's all about. Administration is working with and through people, and sensitivity toward people...I think the kind of people that they bring out of here is not so much a product of what goes on once you'r here, but what you were like when you came. (First year student, female)*

This woman's point of view regarding leadership skills as an innate rather than as a learned ability is not necessarily shared by other women in hospital administration programs nor by faculty or administrators. However, it does highlight an important admissions issue. Women in American society have not traditionally been expected to demonstrate leadership abilities, and they have not been encouraged to develop or display them. On the contrary, women have traditionally been expected to be passive and dependent, and they are more typically rewarded for being followers than leaders. To the extent that this continues to be so and that women applying for positions in hospital administration programs have not been socialized as leaders--or are not readily perceived as displaying leadership characteristics--we might hypothesize that the interview process our resondent described would disproportionately screen out women applicants.

Curriculum: Academic

A hospital administration program in a School of Public Health generally consists of academic study and supervised experience in one or more hospitals or related health care agencies. It leads to a Master of Public Health degree and covers a period of approximately 21 months. In the first quarter, according to one program, the student spends time in work experience in a hospital or related health care agency. The next three quarters are spent in full-time academic study. The next two quarters are spent in residency training, and the final two quarters are spent in full-time academic study.

The academic portion of the training program is relatively short compared to the other MODVOPPP training programs. Students are not required to spend four years in classes with the same students as they are in other health care programs. Consequently their relationships with fellow students are not as important as are peer relationships in other fields.

Curriculum: Residency

The important part of the hospital administrator's training program is the residency. This is where the students' energies seemed focused. Given that the residency is the focus of the training process, it would undoubtedly be burdensome if obstacles to simply getting that residency existed. Our data show that this is the point in the training process where women (once admitted) may encounter more difficulties than men.

Three key individuals are involved in residency training: the student, the faculty or department head who places the student, and the chief executive of the hospital or agency who serves as preceptor. The individual faculty member is the first hurdle women students face. That faculty person must be accepting of women as administrators because it is this person who tries to arrange for an appropriate residency program for the student. The women we interviewed did not report any difficulties with their faculty member. The second hurdle in residency selection is the hospital and the preceptor. This is the place where women seemed to have the most serious difficulties. According to one woman student:

> *...it is sometimes harder for women to get residencies because some hospitals are reluctant to accept women as administrators. (First year student, female)*

Faculty members do, however, place men in such hospitals. One male faculty member justified this practice by stating that faculty do not want to jeopardize the standing of the school by challenging the hospital. Two faculty members of hospital administration programs discussed their knowledge of which hospitals were receptive to women and talked about only dealing with those hospitals. They stated they would not put a woman student in a residency hospital where she would not be welcomed. They seemed to see an ample supply of hospitals

from which to choose for residency training. The students we interviewed did not seem willing to push for acceptance in those hospitals which were reluctant to accept women. Consequently, we saw no conflict occurring even though we did hear of the hospitals which were known to be unreceptive to women administrators.

V. HOSPITAL ADMINISTRATION STUDENTS

Hospital administration programs are generally small, and our interview data indicates that the students tend to form a closely knit group. In both programs we visited the men and women students worked together without the competitiveness apparent in many of the MODVOPPP professions.

> *We are such a small number of people that we have to work together in order to get the most out of the University. And if there was competition it would destroy us as a group. (First year student, male)*

Men and women students generally seemed to see the job of hospital administrator as requiring a lot of patience and a high tolerance for frustration. A good hospital administrator must have "...a terrific ability to get along with people and to be sympathetic with people" (1st year student, female), be someone who was a leader, an economist, and someone who was capable of "...not taking everyone's personal problems to heart." (1st year student, female) That which attracted one woman to hospital administration was the challenge it offered. She said she thrived on crisis. This is what she saw hospital administration as having to offer her: "The ability to lead, to deal with people, to develop her patience and personal strength, and to be constantly on the go."

Both sexes seemed to be excited by this challenge and were looking forward to managing a hospital, a job which combined their interests of "health, administration, and people." Yet both men and women students talked about the increased difficulties women had compared to men in the process of becoming a hospital administrator. Those problems lay not with peer relationships, but with breaking down the myths that women could not manage a hospital. Both men and women students voiced the opinions that:

> *It's going to be damn difficult on a woman to break into the top ranks, say an administrator. She can rise, I would say, virtually on an even scale through the lower management, administrative assistant, to the assistant administrator. But then she peaks. (First year student, male)*

Both shared the opinion that:

> *Women have got to be overqualified for the positions just to compete. (First year student, male)*

According to one 1st year woman in the program,

> *Except in religious orders, administrators of hospitals have always been men.*

Another 1st year woman said,

> *It is harder for a woman to get into management positions than for a man. Women are tolerated rather than wanted.*

A lack of acceptable women role models seemed to exist for female students. The women students in one program portrayed available female role models as "dowdy old maids", who they did not want to be and for whom they also did not want to work. In addition, one woman noted that,

> *Mainly men are in management positions, and they choose men to succeed them. (First year student, female)*

Men, of course, had an abundance of role models, both good and bad. This meant they usually had someone to emulate. It also meant they did not have to prove that their sex could be hospital administrators as women seemed to have to do.

Women spoke of having to adopt male ways of dealing with stress while in residency training:

> *The minute you start coming on as a hysterical female you lose credibility. So essentially there is a male set of standards that you have to live up to. One of the things that I find very hard to assess is that in our society there are different standards for men and for women, in that the way women are taught to deal with pressure or whatever is to become emotional, and when things are not going just the way you want them, then you burst into tears, or whatever, and get rid of it, and a man is supposed to hold all that in and deal with it by himself and be so insular and aloof, and not let things get to him--get ulcers--whatever it is that's necessary to cope with it all. And that standard is held out to women, that women's behavior is somehow not becoming, not professional. (First year student, female)*

This woman had standards for a hospital administrator. She stated that a hospital administrator should not be a person...

> *...who, under pressure, fell apart, because it's a very high-pressure sort of job, and a great deal of the administrator's success is their ability to deal with the pressure and to make some sort of constructive situation out of this chaos. And I think what the norm is that we all feel insecure in some instances,*

male and female. We all feel pressure, but how we express that. The norm is to express it in private, not public. That is a standard of behavior which is applicable to men and women. (First year student, female)

She has accepted for herself a standard she identified as a male norm in this society. She has adopted the private expression of emotion as part of a model hospital administrator.

Another example from residency training illustrates other problems URSA encountered women as having:

Another thing that I found while I was a resident that was sort of interesting is that if you're a woman and if you're attending a medical staff committee meeting, you never sit near the phone or near the coffee or it's all over. If you sit so that it's incredibly inconvenient for you to get either the coffee or the telephone, they will do it. They won't say anything about it, and they won't do anything.

It's sort of a thing that I've accepted as part of the reality of the world in which I live. It happens not only in the professional world, but in any other part of one's world. You find it everywhere. There are jokes about women, and, you know, the whole thing. It's something I've had to grow up with and had to cope with all my life. It's the sort of thing that I get irritated about but I'm not going to...I will become defensive in situations when I will retaliate in situations after they have gone on and it builds up. I don't take every little remark as an indication of something sexist. I tend to let a lot of things go right by because I don't think I can survive if I take upon myself the defense of feminism in every possible social context.

I ignore a lot. I pretend that I don't hear things a lot. I get pissed a lot, and it just depends on the situation and how really outrageous a remark will be, depends on how I'll respond to it. I will get very upset over, not necessarily remarks, but over principle things. (First year student, female)

This kind of experience of sifting and sorting and ignoring the behavioral environment is obviously not shared by the men students since none speak of it. The women students see the need to expend additional energy during residency training in order to deal with comments and jokes by men in the hospital. It was an energy they knew they would have to expend because they had been doing it all their lives. Nevertheless, they reported it as taxing to them.

The women in hospital administration programs spoke of the increased burden they, as women, would have in their job. Being the head of a staff of many women might be troublesome because women...

Might take orders more easily from men. (First year student, female)

But according to two female students, a woman administrator would be better able than a man to understand many of the other women's problems, and consequently her sensitivity would ease the work situation.

The women in the hospital administration programs URSA interviewed seem for the most part to be very independent. The troubles they have with men in residency training are problems they believe they will simply have to deal with. They do not see themselves as championing the fight for women. Rather they are fighting their own personal battles in the limited institutional environment of the hospital world. They seem to be tough, self-reliant women who recognize the difficulties of being a woman manager in a man's world and choose to face those difficulties alone and on their own.

VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Based on our interviews with people in hospital administration, the sex-related problems women encounter in the process of becoming a hospital administrator do not occur during the academic program of study. Relationships with peers appear warm and supportive; problems with faculty seem minimal, readily dismissed by the female students as amounting to simply having to push a faculty member a little harder for a residency choice; and the course work offers no increased problems for women. Instead difficulties center around having to break down the myths that they cannot perform the job of administrator. Easing those difficulties would involve changing the stereotypic views of women as passive followers.

It is clear that if a key factor in being a hospital administrator is a certain "innate leadership potential", women need to be more encouraged than they have previously been to develop that potential and those skills. By turning out more women as hospital administrators, the professional schools are providing the needed role models for high school and college women. Clearly good women role models will serve as encouragement for women to strive to be managers of hospitals.

However more action is needed besides simply graduating more women from hospital administration programs. We recommend that the professional schools provide more information on programs in hospital administration to high schools and undergraduate colleges. Most of our women students did not come to hospital administration by a direct route. (This was also true of our men students.) Rather, they pursued business interests and health concerns before seeing the possibility of combining them. Clearly an informational program would be of value to prospective students.

We recommend that the schools direct more energy to easing difficulties women face during the residency training period. Both schools in our sample did focus energy at this juncture, but more energy is required to help the women deal with the sex-related problems they encounter in the hospital. Despite the obvious toughness exhibited by most of the women students in hospital administration programs, it seemed apparent to the URSA team that they would welcome more sources of counseling and support during residency training. Although they said they

were used to dealing with comments made by men, they seemed surprised by the frequency of incidents and receptive to talking about them.

Since the schools get federal money, they are analogous to contractors with the hospitals as subcontractors--consequently, they are responsible for: a) not placing women students in hospitals which are known by them not to accept women; and b) monitoring the treatment of their students in the hospitals. None of the female students we interviewed expressed concern that they did not get the hospital of their choice because the school did not fight to have that hospital accept women. None of the faculty members with whom we spoke said that they had to tell a female student not to choose a specific hospital because it was not receptive to women. However some of our respondents did state that they know such situations occur. And, since students receive payment for their externship activities, these discriminatory placement activities involve employment situations. Similar placement activities have been found to be in violation of Title VII of the Civil Rights Act of 1964 and Executive Order 11246. Schools of hospital administration which engage in this type of discrimination may be in violation of these enactments.

PART THREE: EPIDEMIOLOGY

I. OVERVIEW

Epidemiology is "the study of man in relation to his total environment or it is the study of human ecology." (22) The term epidemiology is derived from the Greek, "epi" meaning upon, and "demos" meaning the population.

Given that public health is the "Science and Art of (1) preventing disease (2), prolonging life, and (3) promoting health and efficiency through organized community effort..." (21), epidemiology is that part of the profession concerned with research into the distribution and dynamics of disease in human populations. It is the discipline which provides the tools to allow public health practioners to treat the community. Specifically, the purposes of epidemiological research are to identify those factors relative to people and to the environment which influence or determine the occurrence of disease and to provide a basis for programs in preventive medicine and public health.

According to a professor of epidemiology,

> *Epidemiology is not so much a content field as it is a way of looking at the world, a method. (Faculty member, male)*

Indeed a school catalogue defines it this way:

> The main difference between the science of epidemiology and clinical medical sciences is that the former is concerned primarily with health and disease in a community of individuals in its total environment, whereas the latter tends to be concerned with disease in the individual more or less isolated from his environment. (22)

Obviously people in epidemiology take great pride in their method of approaching the health of the world. Although epidemiology is strictly a research field, the administrative purposes of the discipline are vital to health care.

> Knowledge of the frequency of disease in a population serves a number of purposes. For example, it is essential to the logical planning of facilities for medical care. Estimation of the number of hospital beds required for patients with specific diseases (tuberculosis, cancer) or for given segments of the population (infants, the aged) requires knowledge of the frequency and natural history of either those specific diseases or all diseases in those specific parts of the population. In addition, the planning of a variety of studies related to health--clinical, therapeutic, and preventive--requires, for efficiency of design,

knowledge of how many cases of a particular disease are likely to be found in a given population during a given period.

Knowledge of the relative frequencies of a disease among subgroups of the population is also useful, since it enables programs and studies to be directed toward the population group manifesting the greatest concentration of the diseases. For example, if facilities are limited, it assists in deciding which age, occupational, sex, geographic or ethnic group should be the target for a tuberculosis, diabetes or cancer screening program. Similar considerations apply to the choice of a subgroup or the population for any study, whatever its purpose, that requires the maximum yield of cases for a given size of population studied. (9)

II. SCOPE OF THE FIELD

> Epidemiology, like most other sciences, has developed from the study of the exotic and the unusual into an inquiry as to general principles, including explanation of the unusual. Epidemiology is now no more restricted to the study of striking outbreaks of disease than meterorology is restricted to the study of hurricanes or astronomy to eclipses of the sun. (9)

Epidemiology is a growing field, and people in it talk about how their discipline has changed with the times. Although epidemiologists might still consider their vocation to be primarily a "medical science treating of epidemics" (Webster), this is due to the fact that there has been "an expansion of the concept of what constitutes an epidemic, and a realization that study designed to interpret epidemic patterns cannot be restricted to periods of epidemic prevalence." (9)

Until very recently the term epidemic was almost entirely restricted to the description of acute outbreaks of infectious diseases, and the field of epidemiology was involved in a study of those diseases. But as the causes of and consequently cures to those diseases were discovered, epidemiology was increasingly left without a focus. The first trend in the growth in the field has been the broadening of the definition of the term "epidemic". An acceptable definition has become "the occurrence in a community....of a group of illnesses of similar nature, clearly in excess of normal expectation," according to the American Public Health Association in 1960.

This definition has broadened the focus of the field to include non-infectious diseases in the term epidemic. Consequently, today individuals in epidemiology are exploring coronary heart disease, lung cancer and mental illness "which satisfy as well as any infectious disease the criterion of being clearly in excess of normal expectation." (9)

A second trend in the growth of the field has been the apparent realization by epidemiologists of the value of knowledge of disease frequency and distribution during not only epidemic times but also non-epidemic times. The importance of the value of this knowledge is first, it allows people to see the slow growth of an epidemic, and second, it opens the possibility of determining the

nature of an epidemic by exploring where it does not occur. In other words, epidemiology no longer is simply the study of critical diseases at the time of the greatest need for answers.

These changes in the scope of the field mean that the basis for study is not exclusively hard science. The diseases now being examined require training not only in hard sciences but also the soft sciences to allow epidemiologists to delve into all aspects of disease.

III. WOMEN IN EPIDEMIOLOGY

Traditionally women have not been in epidemiology. It is a field which embraces skills which for the most part are taught to men and not to women. Its focus has previously been in hard science disciplines; its methods have been based in science and statistics. These fields have been primarily male sex-typed, and women have only recently begun to enter them. In addition, epidemiology has (until perhaps recently) not been a widely known field. Our data from other professions in this study seem to suggest that if a field is relatively unknown, women are less likely to know about it than men. It appears that women especially have a difficult time getting information on or even finding out about fields which are not highly visible to or widely known by the general public. Among the women we interviewed in epidemiology, for example, no school or college counsellor suggested epidemiology as a possible field of study. However, the field of epidemiology is changing (as discussed in the previous section) and American society is changing. Both of these factors are bringing more women to epidemiology. And the increase of women in the field in turn has had its effect on the content of study.

IV. PROFESSIONAL EDUCATION

Programs in epidemiology are offered at nineteen different university and college campuses (see Appendix D for a listing). Application requirements for these schools generally include a minimum 3.0 grade point average, acceptable scores on the Graduate Record Exams, and good letters of recommendation. The formal steps in training differ for different types of students. As explained in the Section on Public Health, schools of public health have basically two kinds of students: individuals who have prior professional degrees and want to get additional degrees and acquire knowledge in a specific field, and students who simply have a baccalaureate degree and want this public health training for their professional aspirations. Consequently specific programs of study in epidemiology vary. For those students who already hold professional degrees (such as MDs, DDSs, or DVMs) a relatively short (probably three school quarters) program of professional training in epidemiology and public health is sufficient for an MPH degree; others with those degrees find a two-year program is needed. For individuals without prior professional degrees, a two-year program is generally required. In most schools, practical field experience is provided either before or after the MPH period for those who would benefit. The period of study for a Dr. PH degree involves at least two additional years. Both the MPH and the Dr. PH require examinations and a dissertation.

Degrees (such as MS and PhD) are offered at most schools for those primarily interested in preparation for academic and research careers in epidemiology. People in these programs either have a prior medical degree or "sound training in the biological or social sciences." The minimum time for a MS is generally one academic year with heavy biostatistics and hard science courses. For many this is a two-year endeavor. Students who complete the MS program may go on to the PhD program, which generally is an additional two academic years.

V. EPIDEMIOLOGY STUDENTS

Students in programs of epidemiology come from different age groups and levels of professional training. An overall profile cannot be given because the composition of the class is made up of many different groups, although two main groups seem to exist. Some students are in their early 20s and just out of undergraduate school while others are in their late 30s and early 40s, adding on a public health degree to their existing professional degree. In addition, their career goals are not shared. They are not all going to be dentists, example; their life plans may be extremely different. In the programs URSA visited, these differences in background and future plans did not create tensions among the members of the program. Rather, people seemed supportive of each other because of a shared philosophical approach to health care and because of a common interest in a very specific field of study.

Programs in epidemiology, however, have not always been composed of these two types of students. According to a professor of epidemiology:

> *The field of epidemiology, in the olden days, like 15 years ago, was more the kind of field that you're looking to....mainly concerned with privies and epidemic outbreaks...infectious disease, tracking down, surveillances, and all that....The students in those days were retired military officers, pediatrics researchers, and assorted other misfits. In the last five to ten years there's been a gradual shift, so that now, we're getting the very best graduates from the very best medical schools choosing to come into public health and into epidemiology, as a career choice....These are guys with the very best records, with the very best credentials, and they just refuse to accept the kinds of programs that the schools of public health have traditionally offered. They, probably more than any other influence, have forced us to revolutionize our curriculum, to hire new faculty, and to broaden our offerings....so the change has come from students. (Faculty, male)*

What has been happening has been a necessary broadening of the field to include non-infectious diseases, a change in the composition of the student body to include academically stronger individuals and women, and a change in the faculty to be able to teach this new field of study and student body.

Our faculty is very diverse. We have sociologists on the faculty, entomologists, physicians, veterinarians, all kinds of people. And each of them has a different disease area of interest. We can't possibly cover all the diseases students are interested in and much of our program, as a matter of fact, is orientated towards getting the student to identify a disease of interest to him or her and to develop the epidemiological appications of that disease. The major emphasis in our program is now more to the chronic non-infectious diseases. The diseases that account for 90% of all death and disability in this country are heart disease, stroke, cancer, mental illness....those diseases are chronic, non-infectious, primarily....and that's the major focus of our interest...." (Faculty, male)

Changes in the field of epidemiology are making it possible for women to more easily pursue the study of epidemiology. As more Americans become concerned with the dangers in the environment they have created, more people are becoming knowledgeable about this field of study which is trying to find specific causes to the new diseases. As the field becomes better known to the public, more women seem to have access to it. And as women begin to study the hard sciences, more women have the necessary credentials to enter epidemiology.

Another change in the nature and content of the field may make the profession more open to women. This was suggested by one of the women faculty members with whom we talked. The field is broadening to include chronic conditions whose genesis has been traced in part to factors in the social and physical environment. Because an understanding and analysis of contextual social issues is becoming more important in the field, and because women are more readily considered competent in social analysis than they traditionally have been in the physical sciences, it may be that women will increasingly be viewed as appropriate members of the profession.

A male professor in epidemiology seemed to feel women would do well in the field also.

They do well in epidemiology because they're natural....By nature they (women) are curious; by nature they have a tendency to listen more and they know more about this interpersonal relationship stuff--all the agent/host environmental factors that we're concerned with, they're more aware....Like you could say to a male--if you could say to one who has just been shot--it's the bullet that did it. A woman would say, it's not the bullet. It's the gun; it's the finger; it's the arm, it's the person, it's the domestic problem, it's all this social stuff that's involved in it--that the gun and the bullet is only the end little thing--it's the woman who's going to see all three of them. (Faculty, male)

A woman who was head of a department of epidemiology explained it differently. She stated that women for the most part have been trained in the softer sciences and that this allows them to probe into wider areas than the men, who for the most part have been trained in the hard sciences. Both forms of science are required for a full study of the causes of disease. The women's training to probe into wider areas than perhaps hard science allows is today of more use because the field of epidemiology has expanded to include research at non-epidemic times.

What the women do bring of importance to the field that is different from men is often a desire to look at diseases specifically related to women. A male professor stated:

> *I think there's a lack of research in women's issues in all fields, and I think it's not so much that a woman has to do it, but it's the interest.... (Faculty, male)*

The benefits to epidemiology were discussed by a woman professor we interviewed. She felt that since the program is becoming more directed to social issues and no longer specifically directing its energies to hard scientific study, women are able to find a place and to actually "do better than men." They are "free to develop and are more comfortable working in these social areas than men and are more alert to them. Men don't see them and think they are not important." The areas that women might look into that previously men have not are exciting to a male professor of epidemiology.

> *One of our faculty members has been seriously looking into the question of coronary heart disease among women....that is one of the most frightening pieces of data in the entire coronary heart disease--male/female difference. The easy assumption is that it's something about endocrines. The data don't seem to bear that out, but you have to sit down and look at it....In other words, she really began to look into it in detail, and the easy assumptions fall apart. So now she's beginning to prepare a research proposal to look into this question. Now, this is not just an interesting idea; there are very few things we know about heart disease, but one of them is sex....It's major, it's universal, it's pervasive. Imagine! The only thing that hasn't been studied. So it's really crazy. Now I don't know if it takes a woman to study that, but I doubt if the question would have been addressed as vigorously and persistently unless a gal says, hey, wait a minute.... (Faculty, male)*

VI. SUMMARY AND CONCLUSIONS

No apparent sex-typed barriers seem to exist in the training of epidemiologists. Women (as previously discussed) have a harder time than men getting to the profession because it is not widely known and because a background in hard science (which women frequently do not have) is generally required. However, these initial barriers are being broken with a change in the field and a change in American society.

The training process is relatively rigid with no apparent increased difficulties for women. The difficulties for people in this field lie in the future. The lack of jobs for people with degrees in epidemiology is a fear they all expressed in interviews. For those individuals who have prior professional degrees, the worry does not exist; for those who do not, it is a daily concern. These worries and concerns do not appear to be sex-related; both men and women students expressed them, yet according to the head of an epidemiology department, that fear might be slightly less for women, because:

> *....often women prefer a job with a low profile and this is often what a job for someone in epidemiology is; men might not be as content with this career choice. (Faculty, female)*

Clearly as a health field, epidemiology is different from all others URSA studied. Its practitioners do not see patients; they do research. Problems for women in the field are similar to problems women would have in other research fields. The impact of women on the field is becoming increasingly significant. The broadening of the focus of epidemiology is without doubt beneficial to women in that it allows more women to pursue issues related to women, and it offers a field to those women who have backgrounds in the softer sciences.

FOOTNOTES

PART ONE: Chapter V

[1]Matthews took her figures from the following source:

U.S. Department of Labor, Wage and Labor Standards Administration, Women's Bureau, Handbook on Women Workers, Bulletin 294 (Washington D.C.: Government Printing Office, 1969), p. 99.

Figures most frequently quoted for these professions place women anywhere from one to three percent of these total groups. Accuracy is difficult since the Bureau of Labor Statistics does not report employment figures regularly for women in professions other than teaching, nursing, some allied health fields, and medicine.

[2]Matthews' percentages were calculated and taken from:

Troupin, James L. "Schools of Public Health in the United States and Canada." Unpublished full reports, American Public Health Association, New York, June 1960-June 1970. Annex XIII, p. 29.

REFERENCES

1. American Journal of Public Health Supplement, Vol. 65, October, 1975.

2. Appelbaum, Alan L. "Women in Health Care Administration," Hospitals, Journal of the American Health Association, Vol. 49, August 1975.

3. Bernstein, Nancy R., The First 100 Years: Essays on the History of the American Public Health Association, APHA, Washington, D.C., 1972.

4. Callaghan, Donald F., Graduate Education for Hospital and Health Services Administration: Pattern for the Future, Health Care Research Series, No. 16, University of Iowa, 1970.

5. Corwin, EHL, The American Hospital, New York, Commonwealth Fund, 1946.

6. David, Michael M., Hospital Administration: A Career, New York, Rockefeller Foundation, 1929.

7. Ehrenreich, Barbara and English, Deirdre, Witches, Midwives, and Nurses: A History of Women Healers, Feminist Press, 1973.

8. Health Careers Guidebook, U.S. Department of Labor, USDHEW, 1972.

9. MacMahon, Brian, Pugh, Thomas, Ipsen, Johannes, Epidemiologic Methods, Little Brown and Company, Boston, 1960.

10. Matthews, Margie R., Accreditation as One Force in Professionalization: The Accreditation of Schools of Public Health by the American Public Health Association, Chapel Hill, 1973.

11. Mott, Basil J. F., "The Future of Schools of Public Health; Management for Survival", American Journal of Public Health, June 1974, Vol. 64, No. 6.

12. Nerlinger, Josephine, "Things Looking Up--But Not Too Far--for WOMEN M.H.A.'s", Modern Hospital 120, January 1973.

13. Pecarchik, Robert and Mather, William E., "Lack of Business Skill Threatens Women Administrators", Modern Nursing Home 24, May 1970.

14. Polson, Marian Terry, "Where Women Stand in Administration," Modern Hospitals 108, May 1967.

15. Quillan, Mary L., "A Prospective Study of the Effect of Affirmative Action Programs", unpublished, undated.

16. Rogers, David E., "A Private Sector View of Public Health Today", American Journal of Public Health, June 1974, Vol. 64, No. 6.

17. Supply of Health Manpower, 1970 Profiles and Projections to 1990, USDEW, PHS, HRA, February 1974.

18. White, Paul, et al., A Survey of 1956-1972 Graduates of American Schools of Public Health, The Johns Hopkins University, December, 1974.

19. World Directory of Schools of Public Health, 1971, World Health Organization.

20. Winslow, Charles-Edward Amory, The Conquest of Epidemic Disease, A Chapter in the History of Ideas. Princeton, New Jersey, Princeton University Press, 1943.

21. _____, "The untilled field of public health," Modern Medicine, 2:183, March 1920.

22. Yale University Public Health School Catalogue, 1974.

APPENDIX A

SUMMARY OF INDIVIDUAL AND GROUP INTERVIEWS, NUMBER OF SCHOOLS VISITED, OTHER CONTACTS WITH THE PUBLIC HEALTH PROFESSION

A. NUMBER OF SCHOOLS VISITED: Two

B. BREAKDOWN OF INDIVIDUAL INTERVIEWS:

	Male	Female	Total
Administrators			
1. Deans, Presidents, Chancellors	1	--	1
2. Assistant or Associate Dean	2	1	3
3. Affirmative Action Officers	--	--	--
4. Other Administrators	--	1	1
TOTAL	3	2	5
Faculty			
1. Pre-Clinical	n/a[1]	n/a[1]	n/a[1]
2. Clinical	5	5	10
TOTAL	5	5	10
Students			
1. First Year	6[2]	7[2]	13[2]
2. Second Year	--	--	--
3. Third Year	--	--	--
4. Fourth Year	--	--	--
5. Unknown Year-in-School	--	--	--
TOTAL	6	7	13
GRAND TOTAL	14	14	28

[1]Hospital administration and epidemiology combined.
[2]Hospital administration and epidemiology students combined. Due to varying lengths in training programs, all public health students arbitrarily accounted as first year students.

C. GROUP INTERVIEWS

Male		Female		Total	
# of Groups	Est. Avg.	# of Groups	Est. Avg.	# of Groups	Est. Total
1	5	1	10	2	15

D. OTHER CONTACTS

By telephone: American Public Health Association, Association of Schools of Public Health

Visits: Association of Schools of Public Health

APPENDIX B

SUMMARY OF ASSOCIATIONS

American Public Health Association (APHA)

The American Public Health Association (APHA) was founded in 1872 by Stephen Smith. It claims around 26,000 members with 25,000 "affiliated" members. APHA's members are physicians, nurses, educators, engineers, environmentalists, social workers, podiatrists, pharmacists, dentists, industrial hygienists, other community health specialists, and interested consumers. The Association has twenty-two sections, each formed as public health problems changed.

- Laboratory 1899
- Health Administration 1908
- Statistics 1908
- Environment. 1911
- Occupational Health. 1914
- Food and Nutrition 1917
- Maternal and Child Health. 1921
- Public Health Education. 1922
- Public Health Nursing 1923
- Epidemiology 1929
- School Health. 1942
- Dental Health. 1943
- Medical Care 1948
- Mental Health. 1955
- Radiological Health. 1964
- Community Health Planning 1969
- Social Work. 1970
- Veterinary Public Health 1970
- New Professionals 1971
- Injury Control and Emergency Medical Services . . . 1972
- Podiatry 1973
- Population 1975

The Association has two monthly publications:

- American Journal of Publich Health
- Nation's Health (newspaper)

Association of Schools of Public Health

The Association of Schools of Public Health (ASPH) is currently located in Washington, D.C. It has nineteen (university) members.

The Association recently installed a Data Collection Center which has begun to assemble data on schools of and students in public health. The Association does not publish a journal at present.

Other important public health associations include:

- Association of University Programs in Health Administration, Washington, D.C.
- Council on Education for Public Health, Washington, D.C.
- Accrediting Commission for Graduate Education in Hospital Administration, Washington, D.C.

APPENDIX C

DEGREES OFFERED BY SCHOOLS OF PUBLIC HEALTH

The following information is taken directly from World Directory of Schools of Public Health, 1971, World Health Organization.

1. The course leading to the degree of Master of Public Health (MPH) is given by all 17 institutions; the duration of the course at most schools is 9-12 months for students with advanced training or experience, such as those with medical (or other doctoral) degrees, but 16-24 months may be required for other students. At one school up to two academic years are required for all students.

2. The course leading to the degree of Master of Science (MS, MSc, or ScM) is available at all schools with the exception of Puerto Rico. The degree of MS, MSc or ScM is obtainable in various fields, such as public health, epidemiology, hygiene, biochemistry, environmental health, public health nursing, sanitary science, nutrition, biostatistics, parasitology, and health education. The duration of the course varies from one to three years.

3. The following courses leading to the specified degrees or certificates in public health subjects are given by at least one of the schools:

a. Bachelor of Science (Public Health), offered at the University of California (Los Angeles); the course occupies the last two years of the four year college program. The Bachelor of Science (Environmental Health) course at the University of Washington covers all four years.

b. Master of Arts (MA), offered at the University of California (Berkeley); the course lasts for one to two years.

c. Master of Public Health and Tropical Medicine, available at Tulane University (Louisiana); the course lasts for nine months.

d. Master of Industrial Health (MIH); the course is offered at Harvard (Massachusetts) and lasts for nine months.

e. Master of Health Sciences (MHS); the course is offered at Johns Hopkins (Maryland) and lasts for one academic year.

f. Master of Hospital Administration; the course is offered at Michigan and Minnesota and lasts for 21 months.

g. Master in Public Health Education; the course is offered at Puerto Rico and lasts for 12 months.

h. Master in Sanitary Sciences; the course is offered at Puerto Rico and lasts for 11 months.

i. Master in Health Services Administration; the course is offered at Puerto Rico and lasts for 22 months.

j. Master in Demography; the course is offered at Puerto Rico and lasts for 22 months.

k. Master in Nutrition; the course is offered at Puerto Rico and lasts for 12 months.

l. Master in Science in Nursing; the course is offered at Puerto Rico and lasts for 22 months.

m. Master in Health Planning; the course is offered at Puerto Rico and lasts for 22 months.

n. Master in Radiological Health; the course is offered at Puerto Rico and lasts for 12 months.

o. Certificate in Public Health Nursing; the course is offered at Puerto Rico and lasts for ten months.

p. Professional Diploma in Medical Records; the course is offered at Puerto Rico and lasts for 12 months.

4. The following advanced degrees (i.e. beyond the Master's degree), for which a research thesis must be presented, are awarded by a number of public health schools (leading to careers in teaching, research, or high-level administration):

a. Doctor of Public Health (Dr PH), requiring 18-48 months and available at all institutions except Loma Linda (California), Hawaii, Minnesota, Puerto Rico, and the University of Washington.

b. Doctor of Science (Dr Sc or ScD), requiring 18 months to three years. The degree is obtainable at Johns Hopkins (Maryland), Harvard (Massachusetts), and Pittsburgh (Pennsylvania).

c. Doctor of Science in Hygiene; the degree is available at Tulane (Louisiana) and requires at least three years of study (after the MS Hyg degree).

d. Doctor of Health Science, available at Loma Linda (California).

e. Certificate of Post-Doctoral Study, available at the University of California at Los Angeles and at Yale University (Connecticut), and requiring 12 months of study.

5. In addition to the degrees listed above, the Doctor of Philosophy (PhD), requiring 18-48 months, is available to research workers in various fields through the universities' graduate schools. In the case of public health, the instruction is carried out by members of the departments of the schools of public health.

APPENDIX D

PROGRAMS IN EPIDEMIOLOGY

University of California, Berkeley, California
University of California, Los Angeles, California
Columbia University, New York, New York
Harvard University, Cambridge, Massachusetts
University of Hawaii, Honolulu, Hawaii
University of Illinois, Chicago, Illinois
Johns Hopkins University, Baltimore, Maryland
Loma Linda University, Loma Linda, California
University of Michigan, Ann Arbor, Michigan
University of Minnesota, Minneapolis, Minnesota
State University of New York, Buffalo, New York (not in a school of public health)
University of North Carolina, Chapel Hill, North Carolina
University of Oklahoma, Norman, Oklahoma
University of Pittsburgh, Pittsburgh, Pennsylvania
University of Puerto Rico, San Juan, Puerto Rico
University of Texas, Houston, Texas
Tulane University, New Orleans, Louisiana
University of Washington, Seattle, Washington
Yale University, New Haven, Connecticut

APPENDIX E

SUMMARY OF STUDENT GROUP INTERVIEW ISSUES REGARDING PROFESSIONAL TRAINING

INTRODUCTION

URSA used two primary techniques for interviewing students about their professional training experiences in general and about the problems they encounter in gaining access to and pursuing professional training in particular. Each produced a different set of issues and different emphases.

URSA adapted a planning technique known as the Delbecq Nominal Group Process into a form of group interview which we used to surface from groups of students a broad spectrum of problems and issues they encounter in professional training. The groups were small--typically numbering less than twelve--and they included all female groups, mixed male/female groups, and all male groups. The group interviews gave us insights into which of the problems most group members shared, which seemed to present the greatest obstacles in professional training, and which are controversial.

URSA also conducted a series of individual one-on-one interviews with male and female students. The individual interviews often touched on problems and issues not raised in the group interviews because they might be considered "too personal", because they needed direct probes and encouragement to surface, because they were not shared by other members in the group, or because they were not directly related to the question the group was asked to address.

The list of problems included in this Appendix and the analysis which precedes it represent only those issues raised in group interviews by students in response to a single question posited them by the URSA field team. The list does not include any additional issues--and there were many--which surfaced in individual interviews.

As the study progressed, URSA used several questions in the group interviews, changing them to allow us to probe or follow new areas of concern. As most were non-productive (see VOLUME I on Methodology), this Appendix includes only responses to the question: "Given your experiences and observations, what problems does a woman encounter in becoming an X (doctor, dentist, etc.)?" for women, "Given your experiences and observations, what problems does a person encounter becoming an X?" for mixed groups, and "...what problems does a man encounter in becoming an X?" for the men.

Group members were given approximately ten minutes to write their responses to the question on a card, and the answers were recorded without discussion on easel pads so that all members of the group could see the responses. The list of problem categories included and discussed below was generated from the responses on these cards and on the easel pads. In most cases different issues were raised by men and women, but in all cases where the problem category was shared, it was discussed in different contexts, with different emphases, and in terms of a differential impact on men and women.

Generally the problems mentioned clustered into six categories: structural features of the school(s), profession(s), or sex roles; absence or inadequacy of programs, services, facilities, or equipment provided by the training institutions; problems with characteristics of the profession and its work; access to resources required to consider the profession, be admitted to school, and to participate fully in professional practice; negative attitudes and behaviors of peers, faculty, practitioners, and clients; and the impact on oneself of all of the above.

STRUCTURAL FEATURES OF THE SCHOOL(S), PROFESSION(S), OR SEX ROLES

This category includes all those structural features of the profession or school that affect women's experiences in training as well as structural consequences of societal sex roles which reflect the society's assumptions about appropriate roles for men and for women. By appropriate roles we mean those behaviors, feelings, attitudes, skills, attributes, characteristics, and motivations we usually associate with one sex to a greater extent and/or more often than with the other. Structurally, for women, this refers to the specific sets of responsibilities delegated to them by the society on the basis of their gender. Issues raised by women students in this category include:

Lack of Role Models

Basically this is an issue of how many and where women faculty appear in the schools. At some schools the problem is that there are no women faculty or clinicians at all to whom female students can look for evidence that a woman "can do it." In other schools, women appear only in what students consider the lesser status positions (e.g., Basic Science Instructors) which women students feel is a statement about a woman's proper role within the profession. At the few schools in which women clinicians appear in high level positions, some female students may reject them as unacceptable role models because the women have not managed to balance professional success in filling other feminine roles.

Lack of a Support Group of Women

Women students hope and sometimes expect that support from other women will help offset the social and professional isolation they feel in the male environment of the professional schools. The lack of such support is a severe disappointment and often aggravates the pressures of loneliness and isolation. This is a direct result of few numbers of women in a class or school and is compounded by differences in age and marital status.

Being Tracked into a Limited Range of Specialties or Practice Opportunities

This problem has two aspects. Certain specialties and practice options in each of the professions are labeled as more or less appropriate for women. To some degree these labels are consistent with commonly held stereotypes regarding women in this society. For example, the specialties involving work with children are all considered appropriate for women. Similarly, regarding practice options, those that involve supervising a staff and running a business are generally regarded inappropriate for women. For most women in making the decision regarding specialty selection or practice choice, the stereotypes and pressures to go into one rather than another

selection are important. More important, though, are those problems arising from the necessities in a woman's life of carrying responsibility for both a family and a profession. This consideration, and at times necessity, works to track women into those specialties or practice options that are most easily controlled in terms of numbers of hours worked.

Balancing Work/Family

The years of professional training coincide in our society with a woman's childbearing years. To the extent that women are primarily responsible for the home and children, the problems of time management, energy commitment and sheer logistics in being a full-time student and committed practitioner and wife/mother at the same time create a tremendous pressure and problem for women that men do not experience. This is the single most widespread, cross-professional issue of which women spoke. If the women were not already in the position of managing both wife/mother and professional (student) roles, they anticipated that they would in the future.

Women at a Disadvantage Due to Background or Physical Ability

In some professions women feel that they have a distinct disability or handicap due to their background and socialization as women or due to physical size. In dentistry, for example, a familiarity with tool use and terminology is important and often assumed by the schools. Many women spoke of the problems they encountered in picking up such skills and information that the schools assumed they had but didn't (and that many male students did, in fact, have). In other professions where physical size and strength are important, women spoke of the difficulties and inequities in trying to learn techniques that were developed for the male physique.

Social Problems: Fear of the Impossibility of Finding a Mate

Women in all the MODVOPPP professions speak of some problems with dating men who do not understand, support, or accept their choice of a male profession. In medicine women speak of the fear of never finding a male who could accept their high status, high pay, and strong professional commitment. This problem is uniquely women's because it is an accepted pattern in our society for men to marry women who have less social status and less earning power than they. For women in professions with top status and pay, the range of men for whom they make appropriate matches tends to be limited to the men within the profession who might be more successful than they.

ABSENCE OR INADEQUACY OF PROGRAMS, SERVICES, FACILITIES, EQUIPMENT AND OTHER SUPPORTS OR RESOURCES

When schools fail to provide, or provide inadequate, resources in the learning environment and training program, difficulties are caused for women. This becomes an issue when their special or equal needs are not met by the physical plant. For example, when uniforms, lab coats, surgical gowns, etc., are not available in women's sizes women have to wear things too big for them or dress in the uniforms of other health professionals (such as clerks in pharmacies, nurses in surgery). Changing rooms, lounges, women's toilets, and on-call sleeping facilities are often not as available and accessible to women as to men. Health care services or insurance often do not

cover gynecological and family planning services. Child care is not available. Escort services are not available for women working late in labs, clinics, or libraries.

CHARACTERISTICS OF THE PROFESSION AND ITS WORK

Issues in this category were only mentioned by male students. The category includes features of the work or of the profession which create a pressure on the student and on the practitioner. For example, the life or death responsibility of a physician is felt heavily by medical (both MD and DO) students who feel a special necessity for learning everything possible while in training, for developing emotional means of dealing with that responsibility, and for demanding a more than full-time dedication and commitment from themselves and their peers. An issue more widespread among the MODVOPPP professions has to do with the relative status of a profession vis-à-vis the medical profession. Particularly in the lesser known professions that are struggling with the medical profession for recognition and control over practice rights, the lower status is seen by male students to be a large obstacle to public acceptance.

ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES REQUIRED TO CONSIDER PROFESSION, BE ADMITTED TO SCHOOLS, OR ESTABLISH FULL PROFESSIONAL PRACTICE

Lack of Encouragement and/or Information

Given the rigors of training and the added pressures for women in a male profession, institutional and informal supports are vital. Women feel a lack of encouragement and support and at times experience direct discouragement. Particularly in the decision to pursue a profession the amount and extent of information and encouragement given women is vital. Although men spoke of a lack of information as an issue for them in the lesser known MODVOPPP professions, it is even more difficult for women. A related issue is access to information passed along informal networks that do not include women--e.g., fraternities, golfing partners, etc., giving helpful hints or suggestions for "how to get what you want" peculiar to the profession.

Access to the Profession's Informal Network of Practitioners

Women experience problems in this area both in training and when trying to obtain access to internships, residencies, or jobs. While in training, women report they are left out of the informal male network in which information is exchanged, support given, and friendships formed. These settings include fraternities, men's changing rooms, golf, and other athletic teams. Women worry that this will result in being left outside the referral and job network when they become practitioners. All students, male and female, worry about getting jobs, internships, and residencies. Women devote much of their energy in this regard to figuring out how to deal with the well-documented and well-known prejudices against women held by practitioners. This increases the pressure on women to "prove" themselves, reinforces the feeling that they aren't welcome in the profession, and most importantly, represents a real obstacle to women in getting through training and into professional practice. Jobs passed from fraternity brother to fraternity

brother, practitioners relying on informal recommendations from their friends regarding which applicants to accept to their practice, and prejudices about the abilities and competencies of women all result in important limits on women's access to these positions.

Absence of Appropriate Personal Characteristics and Attributes Required of Students, Practitioners

This problem was expressed in resentments and statements made by male students in their group interviews and by women in terms of the main stereotypes which the women feel are used to challenge their presence in the schools and in the professions. Frequently mentioned stereotypes include: "women are too emotional", "women are only accepted because they are women", "women are less dedicated", "women are only here to prove something", "women are not good at analytical thinking", "women are too indecisive to be good managers".

Absence of, Concern about Ability to Meet Formal Requirements of Students, Practitioners

This category of issues was mentioned only by men in most professions. It was expressed as concern about passing courses, passing the National Licensing Boards, etc.

Access to Financing

The financial burden of training is felt by both male and female students, but it is expressed to a different degree and in different contexts. For women it is harder to earn money before and while in training. The jobs available to women often pay less money, and in some professions where jobs are available to the untrained (e.g., veterinary clinic assistant), women are not given the jobs. While in training women report they believe it is more difficult for women to get adequate loans. Parents are often less willing to support a woman than a man through expensive and long training. Spouses are less often available as a source of support for women.

NEGATIVE ATTITUDES AND BEHAVIORS OF OTHERS

This category includes the constellation of attitudes, reactions, and behaviors which women face daily in the training environment.

Incidents of Sexism in the School

We heard many and various reports of jokes at the expense of women--e.g., denigrating comments, nudie slides in lectures, actions or comments aimed at embarassing or "putting down" women, intentional or unintentional use of language in such a way as to ignore or put down women. The majority of these incidents were performed by male peers or male faculty.

Resentments by Male Peers

This resentment is primarily expressed by male students in regard to competitive situations in the profession. For example, it includes resentments that women in school are taking a man's place, that women getting jobs means less for men. It also includes beliefs that women get special treatment by admissions committees, faculty members, and clinicians. Another source of resentment from male peers regards the amount of sexuality that is regarded

as appropriate in women. At some schools males express disapproval of the women for stepping outside the boundaries of a traditional woman's role, thus in some way challenging their own assumptions about and ways of dealing with women.

Client Prejudices

This category includes both real and anticipated problems with patient disbelief, distrust, and sometimes refusal to be treated by a female practitioner. The result of these prejudices is that while in training women may be denied important learning opportunities, while in practice it may be more difficult for them to get patients, and in all cases they must anticipate the necessity of proving their competence.

The Prejudices of Staff and Employees in Clinic Settings

In the professions that include a business or managerial component, prejudices and unwillingness of employees and staff to be supervised by a woman is particularly difficult. In all the professions, respect and acceptance as a professional by other health workers is essential. Women report that respect and acceptance are denied them because of their gender.

THE IMPACT ON ONESELF OF STRUCTURAL FEATURES, THE ATTITUDES, AND BEHAVIORS OF OTHERS, OF THE TRAINING PROCESS ITSELF

All of the above listed problems mentioned by women have some impact on their own feelings about themselves and their profession, on the choices they make, and on their behaviors.

Women's Double Binds

This category was variously described by women as "walking a very thin line", "damned if you do, damned if you don't", and "you can't win as a woman and as a professional." Standards of professional behavior conflict with standards of feminine behavior and women are caught in the middle, particularly in situations requiring aggressiveness, decisiveness, or managing others.

Women's Feeling That They Must Work Harder to Prove Themselves

The combined pressures and impact on women of stereotypes that challenge women's abilities, competencies and commitments result in women reporting the following kinds of problems: women fear making mistakes or taking risks; they fear speaking up or asking questions that might be considered stupid; they feel they have to work twice as hard to be recognized by faculty; women feel reluctant or unable to ask for any special support or help out of fear that the request would reinforce negative stereotypes about women.

Problems with Maintaining Relationships/Other Interests

This has most to do with the emotional strain, academic time pressures, and isolation of being a health profession student. Both male and female students feel cut off from friends not in training with them, and they experience problems in finding energy to devote to significant relationships and in lack of time to spend on other interests. While these problems were mentioned with equal emphasis by both men and women, for women the problems of isolation and being cut off from people outside of the training experience increases the difficulties they experience of being isolated within the training environment, too.

Competition and Academic Pressures

Only male students have expressed this as a concern in each profession, and it appears to be a central problem for them.

Feeling You Must Turn Off Your Emotions

Although related to double binds for women where expressing emotion is considered inappropriate as professional behavior, this is a specific issue that was raised by both men and women. Professional conduct and the pressures of dealing with many cases in a small amount of time demands a certain distancing on the part of the practitioner. Women and some men take issue with these demands because they feel it cuts off a part of them that is (and in their minds, should be) a part of their medical involvement.

Concern That The Training Process "Changes Who You Are"

Again, a concern shared by male and female students, this relates to all the ways in which they feel the professionalization process demands conformity to a single model of professional conduct and attributes.

Three Summary Checklists of Group Interview Issues follow. The first compares women's concerns among the eight MODVOPPP health professions included in this study; the second compares men's. The third compares men's and women's responses in this profession only.

SUMMARY CHECKLIST OF FEMALE GROUP INTERVIEW ISSUES
COMPARATIVE MODVOPPP PROFESSIONS

	M	O	D	V	O	P	P.	P
STRUCTURAL FEATURES								
Lack of Role Models	•	•				•		•
Lack of Support Group of Women		•				•		•
Tracked into Limited Specialties/Options	•	•	•	•		•	•	
Balancing Work/Family	•	•	•	•	•	•	•	
Women's Disadvantage in Background or Size		•	•	•				
Social Problems	•							
ABSENCE OR INADEQUACY OF FACILITIES	•	•	•	•		•		
CHARACTERISTICS OF THE PROFESSION AND ITS WORK								
Life and Death Responsibility								
Relative Status of the Profession					•			•
ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES								
Lack of Encouragement and/or Information	•	•	•	•	•		•	•
Access to the Informal Network	•	•	•		•	•	•	•
Absence of Required Personal Attributes	•	•	•	•	•	•	•	•
Absence or Concern about Meeting Formal Requirements			•			•	•	
Access to Financing	•	•	•	•	•	•	•	
NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS								
Incidents of Sexism	•	•	•	•	•	•	•	•
Resentment by Male Peers	•	•	•	•	•	•	•	
Client Prejudices	•	•	•	•	•	•	•	
Staff/Employee Prejudices	•		•			•	•	•
IMPACT ON SELF OF TRAINING								
Double Binds	•	•	•	•		•	•	•
Women Feel Must Work Harder	•	•	•	•	•	•	•	•
Problems with Maintaining Relationships	•	•	•	•		•		
Competition and Academic Pressures								
Feeling You Must Turn off Emotions	•	•	•					•
Concern That the Training Process Changes You	•							

SUMMARY CHECKLIST OF MALE GROUP INTERVIEW ISSUES
COMPARATIVE MODVOPPP PROFESSIONS

	M	O	D	V	O	P	P	P
STRUCTURAL FEATURES								
Lack of Role Models								
Lack of Support Group of Women								
Tracked into Limited Specialties/Options								
Balancing Work/Family								
Women's Disadvantage in Background or Size								
Social Problems								
ABSENCE OR INADEQUACY OF FACILITIES								
CHARACTERISTICS OF THE PROFESSION AND ITS WORK								
Life and Death Responsibility	•	•						
Relative Status of the Profession		•	•		•	•	•	•
ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES								
Lack of Encouragement and/or Information								•
Access to the Informal Network								
Absence of Required Personal Attributes								
Absence or Concern about Meeting Formal Requirements		•	•		•	•	•	•
Access to Financing	•	•	•	•		•	•	
NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS								
Incidents of Sexism								
Resentment by Male Peers								
Client Prejudices								
Staff/Employee Prejudices								
IMPACT ON SELF OF TRAINING								
Double Binds								
Women Feel Must Work Harder								
Problems with Maintaining Relationships	•	•		•		•		
Competition and Academic Pressures	•	•	•	•		•	•	•
Feeling You Must Turn off Emotions								
Concern That the Training Process Changes You	•	•						

SUMMARY CHECKLIST OF GROUP INTERVIEW ISSUES

PUBLIC HEALTH

	WOMEN	MEN
STRUCTURAL FEATURES		
Lack of Role Models	•	
Lack of Support Group of Women	•	
Tracked into Limited Specialties/Options		
Balancing Work/Family		
Women's Disadvantage in Background or Size		
Social Problems		
ABSENCE OR INADEQUACY OF FACILITIES		
CHARACTERISTICS OF THE PROFESSION AND ITS WORK		
Life and Death Responsibility		
Relative Status of the Profession	•	o
ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES		
Lack of Encouragement and/or Information	•	•
Access to the Informal Network	•	
Absence of Required Personal Attributes	•	
Absence or Concern about Meeting Formal Requirements		o
Access to Financing		
NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS		
Incidents of Sexism	•	
Resentment by Male Peers		
Client Prejudices		
Staff/Employee Prejudices	•	
IMPACT ON SELF OF TRAINING		
Double Binds	•	
Women Feel Must Work Harder	•	
Problems with Maintaining Relationships		
Competition and Academic Pressures		•
Feeling you must Turn off Emotions	•	
Concern that the Training Process Changes You		

APPENDIX F

SUMMARIES OF CHARACTERISTICS OF SCHOOLS AND INTERVIEW RESPONDENTS IN EIGHT MODVOPPP PROFESSIONS

SCHOOL VISIT SITE SELECTION BY CHARACTERISTICS

	# of Field Sites	Urban	Rural	North Central (1)	South	Northeast	West	Public	Private	Free-Standing	Univ. Affiliate	Physically Indep.	Medical Center	Part of Campus	High Status (2)	Low Status (2)	High % Women Enrolled (3)	Low % Women Enrolled (3)
Medicine	9	8	1	1	3	2	3	5	4	1	8	1	2	6	6	3	7	2
Osteo. Med. (4)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A	N/A	1	1
Dentistry	5	5	Ø	Ø	2	1	2	3	2	Ø	5	1	2	2	2	3	4	1
Vet. Med.	2	1	1	1	Ø	Ø	1	2	Ø	Ø	2	Ø	Ø	2	N/A	N/A	1	1
Optometry	2	2	Ø	Ø	Ø	1	1	1	1	1	1	1	Ø	1	1	1	1	1
Podiatry (4)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A	N/A	2	Ø
Pharmacy	3	3	Ø	Ø	Ø	1	2	1	2	1	2	1	1	1	1	2	2	1
Pub. Hlth.	2	2	Ø	Ø	1	Ø	1	1	1	Ø	2	1	Ø	1	2	Ø	2	Ø
TOTAL	27	21	2	2	6	5	10	13	10	3	20	5	5	13	N/A	N/A	20	7

(1) The four regions are comprised of the following states:

North Central: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Idaho, Wisconsin, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming.

South: District of Columbia, Maryland, West Virginia, Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, New Jersey, New York, Pennsylvania.

West: Arizona, New Mexico, Oklahoma, Texas, Colorado, Alaska, California, Hawaii, Nevada, Oregon, Washington

(2) Where known or applicable, status is defined as the degree of respect accorded a given institution by members of the same profession.

(3) Higher or lower than the national proportion of women enrolled by profession.

(4) This information has been intentionally omitted since the combination of characteristics might identify which schools were visited. Thus totals for site characteristics do not add to 27.

SUMMARY OF INDIVIDUAL INTERVIEWS

		Administrator Interviews															Faculty Interviews								
	# of Schools	Deans, Presidents, Chancellors			Asst. or Assoc. Deans			Affirmative Action (1)			Other Admin. (2)			Total Admin.			Pre-Clinical Faculty			Clinical Faculty			Total Faculty		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Medicine	9	10	--	10	11	5	16	--	5(1)	5(1)	11	15	26	32	25	57	8	13	21	19	21	40	27	34	61
Osteo. Med.	2	3	--	3	4	--	4	--	--	--	4	1	5	11	1	12	5	--	5	4	6	10	9	6	15
Dentistry	5	5	--	5	13	--	13	--	--	--	1	4	5	19	4	23	5	3	8	16	5	21	21	8	29
Vet. Med.	2	1	--	1	4	--	4	--	1	1	3	2	5	8	3	11	2	2	4	9	5	14	11	7	18
Optometry	2	3	--	3	2	--	2	--	--	--	2	2	4	7	2	9	4	1	5	3	1	4	7	2	9
Podiatry	2	2	--	2	3	1	4	1	--	1	1	2	3	7	3	10	3	10	13	5	1	6	8	11	19
Pharmacy	3	3	--	3	6	--	6	--	--	--	5	6	11	14	6	20	4	3	7	5	4	9	10	7	17
Pub. Hlth. (5)	2	1	--	1	2	1	3	--	--	--	--	1	1	3	2	5	N/A	N/A	N/A	5	5	10	5	5	10
TOTALS	27	28	--	28	45	7	52	1	6	7	27	33	60	101	46	147	31	32	63	67	48	114	98	80	178

(1) Of the 5 Affirmative Action, 4 were university-wide and therefore covered, in three instances, dentistry, and in one instance, pharmacy, as well as medicine.

(2) Includes Registrars, Business Managers, Administrative Assistants, Directors of Special Programs, Centers, Institutes or Grants, Financial Aid Officers.

SUMMARY OF INDIVIDUAL INTERVIEWS (Continued)

Individual Student Interviews																		Intern & Resident Interviews									Total Respondents		
1st Year			2nd Year			3rd Year			4th Year			Unknown Or "Other" Students			Total Individual Students (3)			Site Admin.			Interns & Residents			Total Admin., Interns & Residents					
M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
6	21	27	4	13	17	2	9	11	1	5	6	2	13	15	15	61	76	3	1	4	9	11	20	12	12	24	86	132	218
3	3	6	1	2	3	2	4	6	--	1	1	--	--	--	6	10	16	←				N/A				→	26	17	43
1	7	8	5	9	14	1	--	1	2	7	9	4	1	5	13	24	37	1	--	1	--	2	2	1	1	2	54	37	91
5	4	9	2	5	7	--	4	4	--	2	2	--	1	1	7	16	23	1	--	1	2	3	5	3	3	6	29	29	58
--	4	4	1	5	6	3	2	5	1	5	6	--	--	--	5	16	21	←				N/A				→	19	20	39
--	1	1	--	2	2	1	2	3	4	2	6	--	--	--	5	7	12	1	--	1	3	--	3	4	--	4	24	21	45
--	1	1	--	5	5	1	7	8	1	2	3	6	7(4)	13(4)	8	22	30	←				N/A				→	32	35	66
6	7	13	--	--	--	--	--	--	--	--	--	--	--	--	6	7	13	1	--	1	2	4	6	3	4	7	17	18	35
21	48	69	13	41	54	10	28	38	9	24	33	12	22	34	65	163	228	7	--	7	16	20	36	23	20	43	287	309	595

(3) Male students were not a key respondent group in the study until after submission of the Interim Report at which time the study's focus was expanded to include them in greater numbers. The imbalance between male and female student interviews remains because URSA visited half of the schools in the study (14 of 27) prior to the Interim Report.

(4) Includes 1 fifth-year and 1 sixth-year student.

(5) Hospital Administration and Epidemiology faculty and students combined. Due to varying lengths of training programs, all Public Health students arbitrarily counted as first-year students.

MODVOPPP GROUP INTERVIEW SUMMARY

	Male		Female		Mixed		Total	
	# of Groups	Estimated Average N=7	# of Groups	Estimated Average N=7	# of Groups	Estimated Average N=8	# of Groups	Estimated Total
Medicine	4	28	13	91	--	--	17	119
Osteo. Med.	3	21	3	21	1	8	7	50
Dentistry	1	7	8	56	1	8	10	71
Vet. Med.	--	--	5	35	3	24	8	59
Optometry	2	14	3	21	1	8	6	43
Podiatry	1	7	2	14	--	--	3	21
Pharmacy	2	14	6	42	1	8	9	64
Pub. Hlth.	1	7	1	7	--	--	2	14
TOTAL	14	98	41	287	7	56	62	441